

# EXHIBIT A

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Attorneys for Defendants

Whirlpool Corporation, Lowe's Home Centers, LLC,  
 Sears Holdings Corporation, and Fry's Electronics, Inc.

UNITED STATES DISTRICT COURT  
 FOR THE DISTRICT OF NEW JERSEY

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CHARLENE DZIELAK, SHELLEY BAKER,  
 FRANCIS ANGELONE, BRIAN MAXWELL,  
 JEFFERY REID, KARI PARSONS, CHARLES  
 BEYER, JONATHAN COHEN, JENNIFER  
 SCHRAMM, and ASPASIA CHRISTY on behalf  
 of themselves and all others similarly situated,

Plaintiffs,

v.

WHIRLPOOL CORPORATION, LOWE'S HOME  
 CENTERS, LLC, SEARS HOLDINGS  
 CORPORATION, THE HOME DEPOT, INC.,  
 FRY'S ELECTRONICS, INC. and APPLIANCE  
 RECYCLING CENTERS OF AMERICA, INC.,

Defendants.

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Civil Action No. 2:12-cv-00089-KM-JBC  
 Honorable Kevin McNulty  
 Honorable James B. Clark, III

**[REDACTED] DECLARATION OF  
 J.B. HOYT**

I, J. Brian ("J.B.") Hoyt, declare as follows:

1. I was formerly employed by Whirlpool Corporation ("Whirlpool") for thirty-six years. My last position with the company was as the Director of Sustainability & Regulatory Affairs. I am currently retired. I am over 21 years of age, of sound mind, and competent to testify. Except as otherwise stated, I have personal knowledge of the facts stated in this declaration. If called as a witness, I could testify as to each of them.

2. In this declaration I state facts in support of Whirlpool's Opposition to Plaintiffs' Motion for Class Certification and related filings.

3. As Whirlpool's Director of Sustainability & Regulatory Affairs, I routinely communicated with various state and federal government agencies including the Department of Energy ("DOE") and the Environmental Protection Agency ("EPA"). My communications with the DOE and the EPA included communications related to the ENERGY STAR certification of products Whirlpool manufactured, DOE energy testing standards and regulations, and changes to those standards and regulations.

4. The Energy Star program is a voluntary program that was developed to identify and promote more highly energy-efficient products. Since 2007, Energy Star was also used to promote certain water-efficient products as well, like the clothes washers that are at issue in this case. It is jointly administered by the EPA, which enforces Energy Star qualifications, and the DOE, which creates the test procedures. (*See* Ex. 1.)<sup>1</sup> Participation in the Energy Star program hinges on "partnership agreements" between product manufacturers, the EPA, and the DOE. (*See* Ex. 1 at 1, Ex. 2.) A manufacturer must agree to several requirements about how Energy Star-qualified products are sold and promoted and how the Energy Star name and logo must be used.

5. While participation in the program is voluntary, once a product manufacturer elects to participate, they must label Energy Star-qualified products with the Energy Star logo. (*See* Ex. 3 ("The ENERGY STAR PARTNER must . . . Provide clear and consistent labeling of ENERGY STAR qualified clothes washers."))

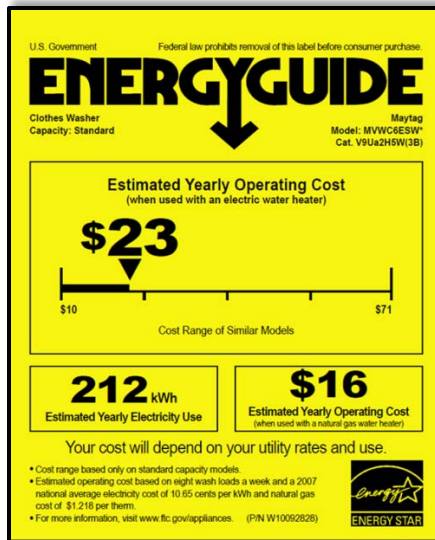
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<sup>1</sup> In order to provide the highest resolution documents, the following exhibits are attached hereto in native format: WDZ0014603 – WDZ0014604 (Ex. 4), WDZ0018902 – WDZ0018909 (Ex. 5), WDZ0009109 – WDZ0009114 (Ex. 6), WDZ0012581 – WDZ0012595 (Ex. 8), WDZ0009251 – WDZ0009259 (Ex. 11), WDZ0008860 – WDZ0008862 (Ex. 12), WDZ0014605 – WDZ0014606 (Ex. 14), and WDZ0009099 – WDZ0009100 (Ex. 16).

6. Energy Star is and always has been intended to serve as a recognizable symbol of relative energy (and more recently, water) efficiency. However, the Energy Star logo does not convey how much more water or energy efficient the machine will be. The label itself does not contain specific information about the number of kWh or gallons of water used by a labeled machine or how that compares to a similar, non-labeled washer. A depiction of the Energy Star label is set out below:



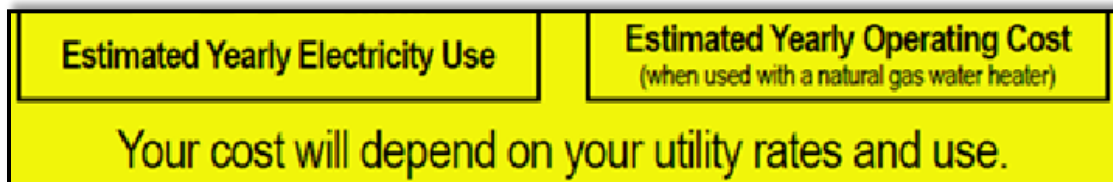
7. For additional detail about the absolute and relative electricity consumption and cost to operate a given washer, consumers can consult the EnergyGuide label. (There is currently no analogous federal labeling requirement that includes the absolute and relative water consumption of a clothes washer.) That label contains information about how many kWh per year the washer will consume under specified laboratory conditions, and how the cost of that energy compares to other, similar models, based on an assumed number of wash loads per year (the number of assumed loads has changed over time) and using national average energy costs. In addition, a manufacturer can place the Energy Star logo on the EnergyGuide label. A depiction of the Energy Guide label that was included on one of the subject washers in this case (which included the Energy Star logo) is set out below:



8. The DOE tests used to calculate compliance with Energy Star and to populate the data on the EnergyGuide label are designed to be repeatable from laboratory to laboratory, but are not reflective of real world use. For a number of reasons, those lab tests cannot replicate, and therefore cannot predict, how much water or energy any individual consumer's washer will actually use in the real-world. In fact, the results generated by DOE tests under laboratory conditions that are included on the EnergyGuide label and that determine if a washer qualifies for Energy Star vary substantially from real-world operating conditions. The values shown on EnergyGuide labels do provide a basis for consumers to compare the relative energy use from washer to washer.

9. For example, the DOE tests specify the precise type of cloth to be used in the washer when it is operated in the lab, as well as how much test cloth to use on various washer settings. The absorption properties of the test cloth varies significantly as compared to clothes washed in the real world, like denim or polyester. The amount of water that the test cloth (or laundry in the real-world) absorbs and retains has a material impact on how water and energy efficient the machine performs. In addition, how a consumer operates their washer in the real-

world significantly differs from the specified test conditions. The DOE test procedures call for clothes washers to be tested on a “normal” cycle, but many clothes washers, including the washers in this case, have dozens of settings permutations. A consumer could choose to run an extra rinse cycle, could choose a warmer (or colder) wash temperature, and could use their washer significantly more or less than is assumed by the EnergyGuide’s estimated annual cost of operation. Other factors that will influence how much it costs a consumer to operate their washer include the cost of energy and water where they live. For that reason, the EnergyGuide label states that a consumer’s actual cost will depend on the cost of electricity where they live and how they operate their machine:



10. For all of these reasons, the EnergyGuide label is not, was never was intended to be, and indeed could not be, a promise or warranty that any specific level of energy or water savings would be achieved. The same rationale applies to the Energy Star logo, which communicates even less information to the consumer. Like the EnergyGuide label, Energy Star is not, was never was intended to be, and indeed could not be, a promise or warranty that any specific level of energy or water savings would be achieved.

11. Whirlpool has won more than 25 Energy Star awards, more than any other appliance manufacturer. It has won the Energy Star “sustained excellence” award six times. And Whirlpool has been awarded the Energy Star “partner of the year” an industry-leading 10 times. This award is EPA’s highest honor, meant to recognize companies that have made “outstanding contributions to protecting the environment through superior energy efficiency.”

12. Consumers receive a number of benefits from purchasing an Energy Star appliance. Depending on how a consumer chooses to operate their washer, they may receive a product that is less expensive to operate because it uses less energy and, in the case of Energy Star washing machines built since 2007, less water. Further, federal, state, and local governments and utilities have provided at different times and locations, various tax incentives and rebates to buy Energy Star products, thereby lowering the effective purchase price of those products.

13. At the state and local level, government agencies, utilities and others have long offered a variety of tax credits, rebates and other incentives to consumers who purchase Energy Star appliances in order to support energy efficiency, encourage the use of renewable energy sources, and support efforts to conserve energy and lessen pollution. To my knowledge, it is not possible to determine the types or amounts of rebates and tax incentives that were available in any given location during the relevant period, or that were taken advantage of by people who purchased one of the Centennial models at issue.

14. Beginning in 2009, a federal "cash for appliances" program was implemented offering rebates on purchases of a wide array of Energy Star qualified home appliances. The federal government made almost \$300 million in funding available to the states through the American Recovery and Reinvestment Act (ARRA). With the funding provided by ARRA, the DOE developed the State Energy-Efficient Appliance Rebate Program (SEEARP) to spur economic activity and invest in long-term energy savings by helping consumers replace older, inefficient appliances with new, efficient models. Through SEEARP, the federal government provided almost \$300 million to the 56 U.S. states and territories to support state-level consumer rebate programs for efficient appliances. Each state was empowered to administer its own cash for appliances program, and was free to select which residential Energy Star qualified appliances

to include in their programs and the individual rebate amount offered for each appliance. Further, any rebates that were already offered by state and local utility districts for purchases of energy-efficient appliances were added to the federal cash for appliances rebate.

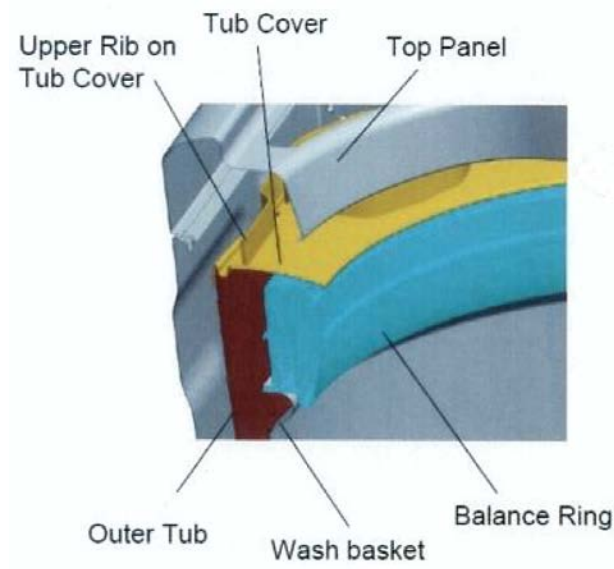
15. Under Energy Star, a clothes washer's overall efficiency is measured by the Modified Energy Factor (MEF) and Water Factor (WF). MEF is a measure of energy consumption that considers the energy used by the washer, the energy used to heat the water, and the energy used to run the dryer. WF measures the washer's water consumption and is measured in gallons of water used per cycle per cubic foot of capacity. Before 2007, water consumption was not a part of Energy Star, but has since been added to Energy Star criteria for clothes washers.

16. To measure the capacity of a clothes washer's "clothes container," the DOE instructed manufacturers to "[m]easure the entire volume which a dry clothes load could occupy within the clothes container during washer operation" by lining the "clothes container" with a plastic sheet, weighing the washer, filling it with "the maximum amount of water" up to its "uppermost edge," and then weighing it again *See* 10 C.F.R. 430, Subpart B, Appendix J1 (the "J1 Procedure") § 1.4. The capacity was then calculated by dividing the mass of the water in pounds by the density of the water. *Id.*

17. But clothes washers have different configurations and components that could constitute the "uppermost edge" of the clothes container. For example, some top-loading washers contain a "tub cover" that extends above the wash basket and wash tub to prevent smaller items of laundry from falling between the wash basket and the tub. The shape of these tub covers can vary significantly from one model to the next and vary even more significantly from one manufacturer to another. Together, these interrelated components, depicted below in the cross-



section of a generic top-loading washer, all comprise the upper portion of the clothes container, although which point should be deemed the “uppermost edge” was unclear. For example, it is reasonable to interpret the “uppermost edge” of the clothes container as corresponding to the top of the wash basket, the top of the balance ring, or one of several possible points on the tub cover.



18. In this way, the configuration and components of the clothes washer could affect how to measure capacity, depending on what the DOE considered the “uppermost edge” of the “clothes container” under the J1 Procedure. Because capacity measurement affects the MEF and WF calculations for Energy Star purposes, understanding the proper method to calculate “clothes container” capacity was critical.

19. [REDACTED]

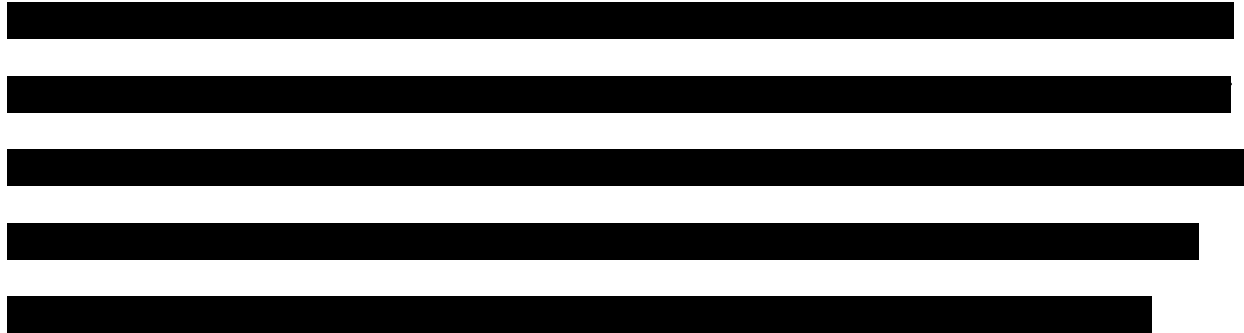
[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[IMAGE REDACTED]

20. In considering Maytag's approach, Whirlpool's engineers were aware of the regulations' instruction that to determine capacity, a manufacturer should "measure the entire volume which a dry clothes load could occupy," and that to measure the entire volume, a manufacturer should fill the clothes container with the "maximum amount of water" to the container's "uppermost edge." J1 Procedure § 1.4. Whirlpool's engineers had observed on a number of occasions that actual top-loading washer owners in the field loaded their washing machines even above the top of the tub cover, so they were well aware of "the entire volume which a dry clothes load could occupy," even if that is not the level to which Whirlpool would advise its consumers to load their machines for optimal cleaning performance.

21. While consumers in fact sometimes used their washers in this way, Whirlpool's engineers were not basing their interpretation of J1 on recommended or actual consumer use. The point of the capacity measurement under J1 was not to replicate consumer use conditions. Indeed, a Maytag Centennial washer could not actually be filled with water up to the various "Fill Levels" that are discussed below under real-world operating conditions. Instead, the point of the test procedure was to identify a way to consistently measure one input into the MEF and WF formulas—a washer's capacity—that can be applied by different manufacturers of different types of washers in different labs, thereby enabling the government and consumers to engage in

an apples-to-apples comparison. Using the top of the tub cover makes sense for this purpose because it is the highest point before water begins to overflow the container. Any point that is lower will require some subjective judgment, depending on the configuration of the tub cover.

22. It was eventually determined that Maytag's approach of measuring to the top of the tub cover captured the spirit of the regulations and was more consistent with how other appliance manufacturers were believed to interpret the standard. But Whirlpool did not simply adopt Maytag's interpretation. Although it had no obligation to do so, before it adopted a revised approach to measuring the capacity of its top-loading washers, Whirlpool sought additional guidance directly from the DOE.

23. On March 20, 2007, Whirlpool sought clarification on whether its proposed interpretation of the J1 protocol was correct. With the assistance of others at Whirlpool, I prepared a letter titled "petition for waiver" that sought clarification about what the DOE intended the term "clothes container" to mean. (*See* Ex. 6.) The law allows manufacturers to submit such waivers when it determines that a test procedure is unclear and the manufacturer requires further guidance.

24. The petition for waiver specifically asked the DOE to clarify "the manner by which [Whirlpool] should measure clothes container capacity in vertical axis washers," given that any number of configurations could comprise the "clothes container." In Whirlpool's view (which had been Maytag's practice before the merger), the "space formed by inter-related components within the clothes washer, such as the top of the tub cover"—what the DOE later designated as "Fill Level 4"—was "fully consistent with the DOE test procedures" for determining clothes container capacity. Thus, Whirlpool specifically requested approval "to

measure the clothes container capacity to the upper edge of the tub cover” in top-loading washers.

25. I also sent a copy of the letter to each of Whirlpool’s competitors, including sending it to the Association of Home Appliance Manufacturers (“AHAM”), which is the appliance industry’s trade group, as well as to Bosch Home Appliances Corporation, Electrolux Home Products, and General Electric Company, among others. Following receipt of the petition, at least one competitor, Alliance Laundry Systems, the world’s largest commercial laundry equipment manufacturer, wrote to the DOE to state its agreement with Whirlpool’s proposal. (*See* Ex. 6.)

26. Mr. Bryan Berringer of the DOE, who was the highest-ranking member of the DOE staff that I would have dealt with at the time concerning energy testing procedures, reached out to me by telephone after the date of submission, and explained that Whirlpool did not need to seek a waiver because its proposed interpretation of the J1 test procedure was correct. On May 14, 2007, Mr. Berringer followed up that telephone call with an email, stating that the DOE “agree[d]” with Whirlpool that “measurement of the clothes container capacity to the upper edge of the tub cover in vertical axis clothes washer containing such a component” was proper under the J1 Procedure. (*See* Ex. 7.) This point of demarcation—the top of the tub cover—was later referred to by DOE as Fill Level 4.

27. In light of the DOE’s guidance, Whirlpool revised its internal testing procedures to conform to the DOE’s interpretation of “clothes container” under the J1 Procedure: Whirlpool would measure to Fill Level 4 (the “top of the tub cover”) to determine the capacity of the “clothes container” for all top-loading clothes washers going forward. (*See* Ex. 8.)

28. The 2007 petition for waiver and subsequent communications with DOE were unrelated to the Energy Star Maytag Centennial washers at issue in this case, which were not manufactured and sold until approximately two years later. Instead, the petition for waiver concerned how Whirlpool would test all of its top-loading washers.

29. Whirlpool initially launched the Maytag Centennial line of top-loading washing machines without an Energy Star option. The Maytag Centennial line was built on the LEAP engineering platform on which many of Whirlpool's conventional top-loading washers were built at that time. The model line included the MVWC300VW, MVWC400VW, MVWC500VW, and MVWC700VW.

30. In an effort to provide a relatively low-cost Energy Star washer to consumers, in early 2009, Whirlpool added the MVWC6ESWW ("C6ES") and MVWC7ESWW ("C7ES") to the Maytag Centennial lineup as Energy Star options. Before 2009, most if not all Energy Star-qualified top-loading washers were built on different, more energy efficient platforms, which have larger capacities, typically employed different mechanical drives, and were priced hundreds of dollars more than conventional top-loading washers.

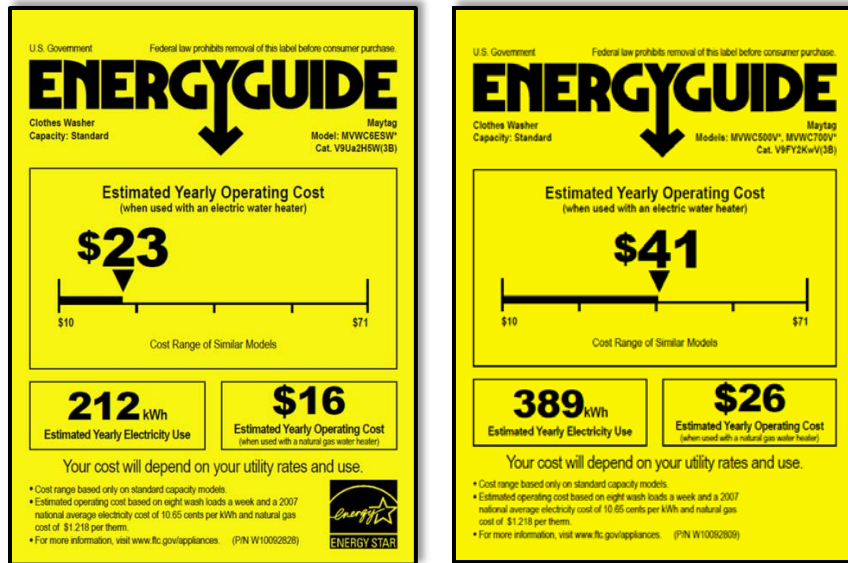
31. The LEAP engineering platform was already scheduled to be phased out and replaced by the VMW engineering platform, so these Energy Star top-loading models were scheduled to have a limited production run of approximately two years.

32. The C6ES and C7ES models were able to achieve Energy Star status because they were designed with an "Auto Load Sensing" feature that only fills the tub with enough water to clean the wash load. The Auto Load Sensing feature was referred to as "adaptive fill" technology that "measured" the load size and composition and adjusted the water level accordingly by sensing how much water had been absorbed by the wash load and stopping the washer from

filling with more water when it was no longer being absorbed. That technology made it possible for the clothes washers to achieve Energy Star-qualification under the revised guidelines that were implemented in 2007, which for the first time took into account water efficiency in clothes washers as well as energy efficiency.

33. In late 2008 and early 2009, Whirlpool tested the C6ES in accordance with its internal test procedures for Energy Star qualification, as revised in light of the DOE's May 14, 2007 guidance. Consequently, Whirlpool measured the capacity of the "clothes container" in light of the DOE's instruction to measure to Fill Level 4, which resulted in a capacity of 3.43 cubic feet. At that capacity, the C6ES and C7ES met the DOE's Energy Star requirements for MEF and WF. (*See* Ex. 9.) Later, Whirlpool tested model number MVWC6ESWW1 using the same test procedure, and it qualified too.

34. The Energy Star versions of the Centennial washers that employed the Auto Load Sensing feature used approximately 50% less water than their non-Energy Star counterparts. They also used far less energy, in part because there was less water requiring less energy to heat. Below is a side-by-side comparison of the EnergyGuide labels for a C6ES and the comparable, non-Energy Star MVWC500VW and MVWC700VW, which demonstrates how much more energy efficient the new Energy Star Centennial models were pursuant to DOE tests and how that translated into estimated annual operating cost savings:

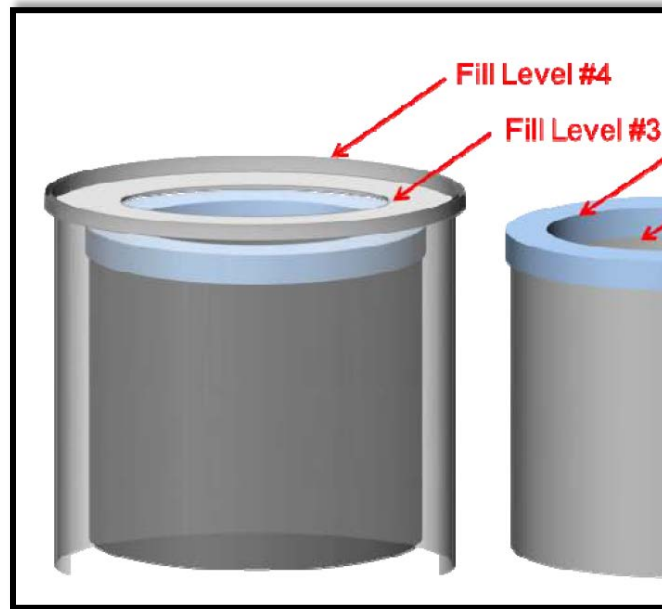


35. It was part of my job responsibilities to communicate the internal energy and water testing certification information to the DOE for purposes of both the Energy Star program and for the information displayed on the EnergyGuide label. That testing information confirmed that the C6ES and C7ES were compliant with Energy Star testing standards. Accordingly, per the Energy Star program's requirements, Whirlpool labeled the clothes washers as Energy Star-qualified and shipped them to retailers to sell to consumers. Whirlpool sold the vast majority of the clothes washers in 2009 and 2010.

36. In September 2009, AHAM, on behalf of the appliance industry, sent a letter to the DOE asking it to confirm that the Fill Level guidance that it had provided to Whirlpool in 2007 was to be followed by all manufacturers going forward. (*See* Ex. 10.)

37. In May 13, 2010, the DOE issued draft guidance in the form of frequently asked questions ("FAQs") that contained proposed guidance on the issue, and requested that industry members submit comments on the DOE's proposal. This draft guidance suggested that the DOE was considering recommending measuring capacity by filling the clothes container to "Fill Level

3,” which corresponded to a slightly lower point on the tub cover than the DOE had previously communicated to Whirlpool, as the illustration provided by DOE reflects:

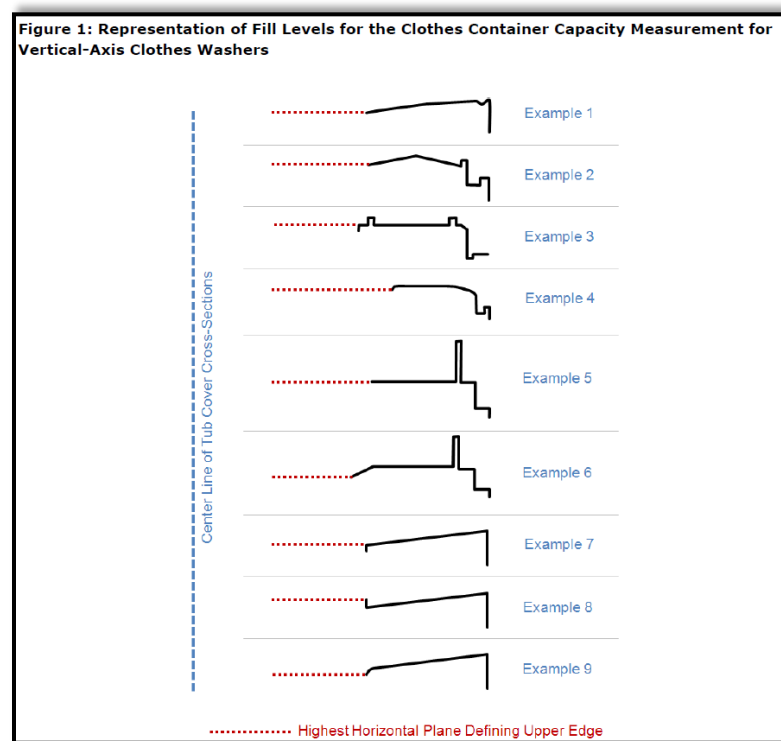


38. Thus, as of May 2010, the DOE had signaled that it was considering implementing revised guidance instructing manufacturers to measure capacity by filling the clothes container to a point that corresponded to an unspecified inside diameter of the tub cover, rather than to the top of the tub cover. However, this proposed revised guidance did not state official DOE policy; rather it was in draft form, and the DOE asked industry members to submit comments on its proposed draft guidance.

39. On June 9, 2010, with the assistance of others at Whirlpool, I prepared Whirlpool’s “Response to DOE’s draft interpretation of the test procedure for measuring the capacity of clothes washers.” (*See* Ex. 11.) In that letter, I explained Whirlpool’s position that proposed “Fill Level 3” was inconsistent with the text of the DOE regulation, was inconsistent with actual consumer use habits, and, most importantly, would undermine the certainty and reliability of the test procedures. As to the latter point, the reliability of the J1 test turns on



whether it is repeatable; meaning that different technicians in different labs can apply the exact same test procedures every time. Fill Level 4 was repeatable because the top of the tub cover, no matter how the tub cover was configured, would always be a readily identifiable point. The DOE's proposed Fill Level 3, on the other hand, requires subjective judgment, and could therefore vary from lab to lab and technician to technician. This point was later recognized by DOE (*see* 77 Fed. Reg. 13920 (recognizing that for top-loading washers, "determining the maximum fill level can require the subjective judgment of the test laboratory")), and is emphasized by a chart created by DOE in connection with later issued guidance, which identifies the location of Fill Level 3 for a number of different tub cover configurations:



40. During the period while DOE was contemplating a revision to its guidance, appliance manufacturers were not required to take any action. Specifically, the time, money and resources required to change the manner in which a large manufacturer, like Whirlpool, designs and tests all of its washing machines are enormous. Whirlpool was thus entitled to and did

continue to rely on the guidance it had been provided by the DOE pending the issuance of final guidance from the government.

41. On July 6, 2010, the DOE issued its final guidance in FAQ format, which stated—contrary to the position that it had taken four years earlier in response to Whirlpool’s request for guidance—that “the upper-most edge of the clothes container shall be considered the highest point of the inner-most diameter of the tub cover”—what the DOE now called Fill Level 3. (*See* Ex. 12.) This definition of Fill Level 3 (“the highest point of the inner-most diameter of the tub cover”) was similar to, but not the same as, the version that was contained in the May 2010 draft guidance, which described Fill Level 3 as corresponding to “the highest horizontal plane that a clothes load could occupy.”

42. In making this change, the DOE recognized that it was effectively changing the rule and also recognized that its previous rule was ambiguous: “Between 1997 and 2010 DOE ‘became aware that this general specification of the water fill level could lead to multiple capacity measurements that do not reflect the actual capacity for washing clothes.’” *See* 77 Fed. Reg. 13888, 13917. Indeed, almost immediately after issuing this revised guidance, the DOE engaged in a notice of proposed rulemaking to once again revisit the fill level issue because the revised guidance still was not clear. *Id.* at 13890, 138917.

43. In order to bring its internal testing procedures into compliance with new Fill Level 3 guidance, including the re-testing and re-rating of all of its then-existing top-loading washers, Whirlpool had to retest and rerate the capacity of more than 70 models of washing machines in 24 different energy categories and then re-characterize their WF and MEF. Whirlpool also had to change its testing procedures for all new models of washers. Whirlpool only had a certain number of energy and water testing labs that it could use to accomplish this

effort. This required an all hands-on-deck, multi-month effort, and took more than 2,000 hours of lab time to complete. The DOE was kept apprised of Whirlpool's progress during this period. (*See* Ex. 13 (Mar. 23, 2011, letter from the DOE, described below).) The Maytag Centennial Energy Star washers were not a priority during this process because they were already scheduled to be phased out of production in less than 6 months.

44. On September 20, 2010, Whirlpool received from the DOE a letter indicating that a single Maytag Centennial washing machine model C6ES was tested as part of the Energy Star Verification Testing Pilot Program and did not meet the ENERGY STAR program's efficiency standards. (*See* Ex. 14.) In this "Stage I" testing, the MEF was 1.78 (1.1% below the minimum requirement of 1.8) and the WF was 8.3 (10.7% above the maximum requirement of 7.5). The DOE stated that Whirlpool could request additional "Stage II" testing of additional units, which Whirlpool did in a letter dated September 30, 2010. (*See* Ex. 15.)

45. In December 2010, Whirlpool discontinued production of the C6ES and C7ES models in accordance with its long-term plan to replace the LEAP engineering platform with the new VMW platform.

46. On January 19, 2011, after conducting a second round of testing on three additional C6ES units plus the same unit they previously tested, the DOE informed Whirlpool that those units also did not comply with Energy Star requirements. (*See* Ex. 16.) Notably, the lab that DOE contracted with to conduct these tests misapplied the new Fill Level guidance, further reinforcing that even as revised, they remained unclear. Whirlpool was given twenty days to respond to the letter. During that period, the DOE instructed Whirlpool that "[t]he product will remain designated as ENERGY STAR qualified during this twenty day period."

47. On February 8, 2011, Whirlpool responded to the DOE's January 19, 2011 letter. Whirlpool explained that the DOE had tested the units using Fill Level 3 (the innermost diameter of the tub cover), but that they had been certified in accordance with the DOE's previous direction to use Fill Level 4 (the top of the tub cover). This difference in testing procedures resulted in a measured capacity that was 0.37 cu. ft. less than when the washers were originally certified. Thus, the only reason that the washers were found to not comply with Energy Star standards was because the DOE applied its revised Fill Level guidance when it tested the units for compliance. The letter went on to explain that Whirlpool no longer had any units remaining in inventory but was ready to assist the DOE as needed.

48. On March 16, 2011, the DOE formally referred the matter to the EPA for "appropriate action." (*See Ex. 17.*)


49. On March 23, 2011, the DOE authored a letter to Whirlpool noting, among other things, that Whirlpool was in the process of "retesting and recertifying its pre-existing clothes washer models to conform" to the revised Fill Level guidance, and expected to complete that process by the end of April 2011. (*See Ex. 13.*)

50. On approximately May 7, 2012, the EPA added model MVWC6ESWW1 to its list of "Non-Lighting Products Disqualified from the ENERGY STAR® Program". (*See Ex. 18.*) Between March 16, 2011, the date on which the matter was referred to the EPA, and May 7, 2012, the date on which I understand the EPA disqualified model MVWC6ESWW1, I received no communication from the EPA concerning this matter. Whirlpool was provided no advance notice that the EPA intended to add model MVWC6ESWW1 to its list of Non-Lighting Products Disqualified from the ENERGY STAR® Program. According to the EPA's own published Disqualification Procedures, when the EPA believes a product may warrant disqualification from

the ENERGY STAR program, the EPA is supposed to notify the manufacturer in advance and provide 20 days to submit a written response to that proposed action. The first time I learned that the EPA had added model MVWC6ESWW1 to its list of Non-Lighting Products Disqualified from the ENERGY STAR® Program Washers was June 26, 2012.

I declare under penalty of perjury under the laws of the State of New Jersey and the United States of America that the foregoing is true and correct to the best of my knowledge.

Executed this 19th day of May, 2016, at Benton Harbor, Michigan.

  
\_\_\_\_\_  
J.B. Hoyt

# EXHIBIT 1

## **ENERGY STAR® Program Integrity Update: Verification Testing & Product Disqualifications**

### **Background**

In 1992, under the authority of the Clean Air Act Section 103(g), the U.S. Environmental Protection Agency (EPA) introduced ENERGY STAR as a voluntary labeling program designed to identify and promote energy-efficient products to reduce greenhouse gas emissions. Section 103(g) of the Clean Air Act directs the Administrator to “conduct a basic engineering research and technology program to develop, evaluate, and demonstrate non-regulatory strategies and technologies for reducing air pollution.” In 2005, Congress enacted the Energy Policy Act. Section 131 of the Act amends Section 324 (42 USC 6294) of the Energy Policy and Conservation Act, and “established at the Department of Energy and the Environmental Protection Agency a voluntary program to identify and promote energy-efficient products and buildings in order to reduce energy consumption, improve energy security, and reduce pollution through voluntary labeling of or other forms of communication about products and buildings that meet the highest energy efficiency standards.”

For 20 years, ENERGY STAR and its trademark have served as a voluntary national program to reduce greenhouse gas emissions and make it easy for consumers to identify and purchase energy-efficient products without sacrificing performance, features, and comfort. Products can earn the ENERGY STAR label by meeting the energy efficiency requirements established by EPA and set forth in ENERGY STAR product specifications. Such specifications establish energy performance standards that exceed average market performance. More than 40,000 product models are currently certified to meet those standards. The program has been greatly successful: over the past 20 years individuals and organizations across the country have tapped the value of ENERGY STAR to achieve dramatic energy savings, while preventing a total of more than 1.8 billion metric tons of greenhouse gas emissions and saving over \$230 billion on utility bills. More than 4.5 billion ENERGY STAR products were sold over the past 20 years, and currently, more than 1.4 million new homes and more than 20,000 facilities carry ENERGY STAR certification.

Partnerships have been key to the program’s success. Businesses and organizations - more than 18,000 of them, from small school districts to large Fortune 500 companies - have embraced the value of ENERGY STAR and made it their own. The interplay of government, business, and market forces brought together through ENERGY STAR has changed the energy efficiency landscape.

### **Third-Party Certification & Verification Requirements**

To maintain consumer trust and improve program oversight, EPA has implemented third-party certification and verification requirements. For a product to earn the ENERGY STAR label, its performance must be third-party certified based on testing conducted in an EPA-recognized laboratory



that meets international standards for quality and competency and reviewed by an EPA-recognized certification body (CB) that also meets international standards for quality. In addition to up-front testing, a percentage of all ENERGY STAR products are subject to "off-the-shelf" verification testing each year. The goal of this testing is to ensure that changes or variations in the manufacturing process do not undermine a product's qualification with ENERGY STAR requirements. In addition, the U.S. Department of Energy (DOE) conducts ENERGY STAR verification testing on certain ENERGY STAR product categories also covered by federal energy standards. Testing for ENERGY STAR program purposes is performed similar to other efficiency testing programs, such as the appliance testing for DOE federal standards, and the Air-Conditioning, Heating, and Refrigeration Institute (AHRI) heating, ventilation, and air conditioning and the Home Ventilating Institute (HVI) vent fan certification programs, among others.

#### ENERGY STAR Product Disqualifications

In 2011, EPA documented and began implementing standardized product disqualification procedures to address those products that are reported to EPA by CBs as having failed verification testing (EPA's Disqualification Procedures can be found at [www.energystar.gov/3rdpartycert](http://www.energystar.gov/3rdpartycert)). Under the Disqualification Procedures, EPA first reviews the testing failure information to determine if the product should be removed from the ENERGY STAR program. If EPA does not identify any abnormalities with the testing referral, EPA proceeds with notifying the tested manufacturing partner and any other product labelers affected by the failure, that EPA intends to disqualify the product from the ENERGY STAR program. Affected parties are provided a 20-day period to dispute the pending disqualification, in which case EPA conducts a technical review of all information the manufacturing partner submits before making a final determination on the product's status.

EPA has found that testing failures for products that previously passed certification testing can occur for a number of reasons, including changes in the supply chain, production malfunction, inconsistent quality with raw materials and components, and product performance designed too close to performance requirements. Failures can also be a result of laboratory testing or operator error. EPA considers all of these things, among others, in determining whether the testing accurately reflects performance of some units of the product. If upon technical review, EPA determines that the testing failure warrants a product's removal from the program, EPA will proceed with a formal product "disqualification". All disqualified products are posted on the ENERGY STAR website at [www.energystar.gov/integrity](http://www.energystar.gov/integrity). In addition, EPA issues bi-weekly disqualification updates to energy utilities that opt to receive that information.

For products that are disqualified, EPA requires that the manufacturing partner submit a corporate certification detailing product control measures undertaken to manage the sale, distribution, and marketing of the disqualified model, such that ENERGY STAR is no longer associated with the product. In approving control measures for failed products, EPA may consider the scope of the failure as it relates to consumer expectation and investment. EPA generally requires that product control measures include

notice or posting of failure, and may require, where market feasible, that manufacturing partners remain available to compensate consumers in a commensurate and appropriate manner. EPA approves product control measures in a manner that is responsive to market- and product-specific issues, provides national consistency for partners and consumers, and upholds integrity of the trademark.

Product disqualification does not necessarily indicate that all of the units in the marketplace are deemed to fail ENERGY STAR performance requirements; rather, because the product was initially certified as performing, a subsequent testing failure may indicate that some subset of units are not performing fully. Through examination of the root cause of the failure, EPA and the manufacturing partner are in some instances able to identify how many and/or which batch of units were compromised. EPA acts to protect the trademark's integrity and as a result disqualifies products that may perform fully and consistently in many or even most settings. In 2012, 1169 ENERGY STAR products were subject to verification testing. Of those tested, 87 base models warranted disqualification from the program, reflecting a 7.4 percent disqualification rate. Disqualification rates vary slightly among product types, with, e.g., appliances at 2 percent in 2012. See table listing disqualification rates by product type below.

| <i>Product Category</i>         | <i>Number of Unique Disqualifications</i> |
|---------------------------------|---|
| Boilers                         | 1   |
| CAC ASHP                        | 6   |
| CFLs                            | 54  |
| Clothes Washers                 | 1   |
| Dehumidifiers                   | 1   |
| Geothermal Heat Pumps           | 1   |
| Refrigerators and Freezers      | 3   |
| Residential Light Fixtures      | 3   |
| Roof Products                   | 3   |
| Room Air Cleaners               | 2   |
| Room Air Conditioners           | 1   |
| Solid-state Lighting Luminaires | 4   |
| Televisions                     | 1   |
| Ventilating Fans                | 5   |
| Water Heaters                   | 1   |
| <b>Total</b>                    | <b>87</b>                                 |

### Conclusion

The goal of verification testing of ENERGY STAR products followed by disqualification, as appropriate, is to enhance program integrity and protect the consumer experience with labeled products. To that end, EPA's disqualification procedures provide needed predictability and flexibility for the Agency to address

product- and manufacturer-specific issues. Flexibility allows EPA to consider the product's overall impact in the market, the potential scope of a product's deficiency, including the number of units that may have been affected, and to recognize that testing errors do occur.

Having a standardized approach to disqualification, in particular to product control measures, has ensured national consistency among manufacturers and relevant markets. ENERGY STAR product control measures are designed to minimize inequities among manufacturers, support a national approach to managing the federal trademark, and provide consistency among the many geographical markets that products enter. This approach allows EPA to adapt program responses to reflect market or product changes in the future, where fair and warranted. In addition, it allows EPA to protect the integrity of the program while keeping compliance costs low enough to encourage participation by consumers and manufacturers alike.

After two years of implementation, EPA believes that this approach to verification testing and disqualification has bolstered manufacturer and consumer confidence in the integrity of the program, and directly affected the success of energy-efficient products in the market. Confidence in the program sets up a market incentive towards innovation, which advances technology and increases the market penetration of energy-efficient products, thereby raising the floor for product design and performance. It facilitates consumer demand for and further manufacturer investment in technical research and advancement in those product areas. Consistent with the design of the ENERGY STAR program, it sets up a market dynamic that enables more stringent requirements and greater energy and environmental benefit as time goes on.

Similarly, protecting the integrity of the ENERGY STAR mark bolsters public trust in the brand, thereby increasing energy savings for consumers. Today, 85 percent of the American public recognizes the ENERGY STAR label, and global support for the program remains strong, as exemplified by international agreements. In 2012, 1.3 million Americans visited the ENERGY STAR website to find product information about home efficiency improvements and use the program's home energy tips, tools and recommendations to help reduce utility bills and improve comfort. Over 18,000 organizations partnered with EPA improved efficiency and realized significant environmental and financial benefits by associating with the ENERGY STAR brand and program. Utility programs rely upon the ENERGY STAR brand in offering efficiency-related promotions. By partnering with ENERGY STAR, consumers and businesses reduced their utility bills by \$24 billion, due to investments in energy-efficient technologies and practices that will continue to provide bill savings for years to come. Public confidence is integral those successes.

# EXHIBIT 2



**Partnership Agreement between  
ENERGY STAR®  
and  
{Organization Name},  
an ENERGY STAR® Partner**

Through this agreement, {Organization Name} ("ENERGY STAR Partner") joins in partnership with the US Environmental Protection Agency (EPA) and the Department of Energy (DOE) in one or more areas. ENERGY STAR Partner recognizes ENERGY STAR as a broad partnership designed to promote buildings, products, homes, and industrial facilities that use less energy while providing the same or better performance than conventional designs. ENERGY STAR Partner wishes to use the ENERGY STAR name and/or mark in association with qualified products or homes. ENERGY STAR Partner agrees to use the partnership and the ENERGY STAR mark to promote energy efficiency as an easy and desirable option for organizations and consumers to prevent pollution, protect the global environment, and save on energy bills. ENERGY STAR Partner agrees that it is important to build and maintain the meaning of the ENERGY STAR mark as a trustworthy symbol that makes it easy to make a change for the better.

### **Partner Commitments**

ENERGY STAR Partner is committed to taking action in the area(s) indicated on the ENERGY STAR Commitment Form. For the designated program area(s), ENERGY STAR Partner agrees to fulfill all requirements as outlined in the following supporting documents:

- ENERGY STAR Program Requirements, defining requirements for being recognized as a partner in each program area, such as manufacturing, selling, or promoting ENERGY STAR qualified products to consumers or organizations. Specific requirements include identifying a responsible party for each area of participation and updating EPA/DOE on the efforts undertaken through the partnership. Where applicable, these include ENERGY STAR eligibility criteria defining the energy and other performance specifications that must be met for use of the ENERGY STAR mark on and/or in association with buildings, homes, and products; and
- ENERGY STAR Identity Guidelines, describing how the ENERGY STAR name and mark may be used. Partner will adhere to these guidelines and ensure that its authorized representatives, such as advertising agencies, dealers, and distributors, are also in compliance.

EPA/DOE will undertake a variety of efforts to build awareness of the ENERGY STAR name and mark, maintain the credibility of the ENERGY STAR name and mark, and promote the benefits of energy-efficient homes, buildings, products, services, and industrial facilities. EPA/DOE will strive to:

- increase awareness of the ENERGY STAR name and mark across the residential, commercial, and industrial sectors by distributing key messages on the benefits of ENERGY STAR qualified buildings, homes, and products;
- make current versions of the ENERGY STAR Identity Guidelines and ENERGY STAR Program Requirements easily accessible through the Internet and other means;
- maintain a Web site where ENERGY STAR Partner can furnish information on its program efforts and responsible key contacts as outlined in the ENERGY STAR Program Requirements; and
- provide ENERGY STAR Partner with public recognition through the Internet and other mechanisms for its efforts in the ENERGY STAR Partnership and its role in protecting the environment.

## Disclaimers

Partner will not construe, claim, or imply that its participation in the ENERGY STAR program constitutes federal government approval, acceptance, or endorsement of anything other than Partner's commitment to the program. Partner understands its participation in the ENERGY STAR program does not constitute federal government endorsement of Partner or its buildings, homes, products, services, or industrial facilities. Partner understands that the activities it undertakes in connection with the ENERGY STAR program are voluntary and not intended to provide services to the federal government. As such, Partner will not submit a claim for compensation to any federal agency.

## Dispute Resolution

Partner and EPA/DOE will assume good faith as a general principle for resolving conflicts under the ENERGY STAR program. Both parties will endeavor to resolve all matters informally, so as to preserve maximum public confidence in ENERGY STAR.

In the event informal channels do not produce a mutually agreeable resolution to a matter in dispute, either party to this agreement shall notify the other in writing as to the nature of the dispute, the specific corrective action sought, and their intent to terminate the Partnership Agreement, either as a whole or in part, unless specific corrective actions sought are undertaken:

- within 20 days of receiving formal notification from EPA/DOE indicating intent to terminate the Partnership Agreement, either as a whole or in part, Partner will reply, agreeing to either (1) undertake in a timely and effective manner the corrective actions sought by EPA/DOE, or (2) terminate the Partnership Agreement, either as a whole or in part;
- within 20 days of receiving formal notification from Partner indicating its intent to terminate the Partnership Agreement, either as a whole or in part, EPA/DOE will reply, either (1) agreeing to undertake in a timely and effective manner the corrective actions sought by Partner, or (2) explaining why such corrective actions cannot be undertaken;
- if Partner fails to respond within 20 days of receiving formal notification of EPA/DOE's intent to terminate the Partnership Agreement, either as a whole or in part, or if Partner responds but does not agree to undertake corrective actions sought by EPA/DOE, or if Partner agrees but does not initiate the corrective actions in a timely manner, then this agreement is terminated, either as a whole or in part.

## Entry into Force and Duration of Agreement

Both parties concur that this agreement and the terms outlined in the supporting documents will become effective when signed by both parties. This agreement may be updated at any time to add new areas for which ENERGY STAR Partner wants to be recognized as a partner. Both parties concur that this agreement is wholly voluntary and may be terminated by *either party* at any time, and for any reason, with no penalty. Failure to comply with this Partnership Agreement, applicable Program Requirements, and Identity Guidelines can result in termination of this agreement and authorization to use the ENERGY STAR mark. EPA/DOE will actively pursue actions for resolving issues of noncompliance.

The undersigned hereby execute this Partnership Agreement on behalf of their party. The signatories of this agreement affirm that they have the authority to execute this agreement on behalf of ENERGY STAR Partner and EPA/DOE.

**Partnership Agreement Signatory for ENERGY STAR:**

|               |   |                      |                      |                      |
|---------------|---|----------------------|----------------------|----------------------|
| Signature(s): | <input type="text"/>  | <input type="text"/> | Date(s)              | <input type="text"/> |
| Name(s):      | Kathleen Hogan  | <input type="text"/> | <input type="text"/> | <input type="text"/> |
| Title(s):     | Director, Climate Protection Partnerships Division,<br>US EPA | <input type="text"/> | <input type="text"/> | <input type="text"/> |

**Partnership Agreement Signatory for {Organization Name}:**

|            |                      |       |                      |
|------------|----------------------|-------|----------------------|
| Signature: | <input type="text"/> | Date: | <input type="text"/> |
| Name:      | <input type="text"/> |       |                      |
| Title:     | <input type="text"/> |       |                      |
| Address:   | <input type="text"/> |       |                      |
| City:      | <input type="text"/> |       |                      |
| State:     | <input type="text"/> | Zip:  | <input type="text"/> |
| Country:   | <input type="text"/> |       |                      |
| Phone:     | <input type="text"/> |       |                      |
| Fax:       | <input type="text"/> |       |                      |
| E-mail:    | <input type="text"/> |       |                      |
| Web site:  | <input type="text"/> |       |                      |

# EXHIBIT 3





## ENERGY STAR® Program Requirements for Clothes Washers

### Partner Commitments

FINAL VERSION 3/7/2008

#### Commitment

The following are the terms of the ENERGY STAR Partnership Agreement as it pertains to the manufacturing of ENERGY STAR qualified clothes washers. The ENERGY STAR PARTNER must adhere to the following program requirements:

- Comply with current ENERGY STAR Eligibility Criteria, defining the performance criteria that must be met for use of the ENERGY STAR certification mark on clothes washers and specifying the testing criteria for clothes washers. At its discretion, DOE may conduct tests on products that are referred to as ENERGY STAR qualified. These products may be obtained on the open market, or voluntarily supplied by PARTNER at DOE's request;
- Comply with current ENERGY STAR Identity Guidelines, describing how the ENERGY STAR marks and name must be used. PARTNER is responsible for adhering to these guidelines and for ensuring that its authorized representatives, such as advertising agencies, dealers, and distributors, are also in compliance;
- Qualify at least one ENERGY STAR qualified clothes washer model within one year of activating the clothes washers portion of the agreement. When PARTNER qualifies the product, it must meet the criteria in effect at that time;
- Provide clear and consistent labeling of ENERGY STAR qualified clothes washers. The ENERGY STAR certification mark must be clearly displayed on the top/front of the product (by placement of the ENERGY STAR logo on the FTC's EnergyGuide label, on product labels, and/or as a permanent mark), on the manufacturer's Internet site where information about ENERGY STAR qualified models is displayed, and in product literature (i.e., user manuals, spec sheets, etc.). It is also recommended that the label appear on product packaging;
- Provide to DOE, on an annual basis, an updated list of ENERGY STAR qualified clothes washer models. Once the PARTNER submits its first list of ENERGY STAR labeled clothes washer models, the PARTNER's company name will be listed as an ENERGY STAR PARTNER. PARTNER must provide annual updates in order to remain on the list of participating product manufacturers;
- Notify DOE of a change in the designated responsible party or contacts for clothes washers within thirty days.

## Performance for Special Distinction

In order to receive additional recognition and/or support from DOE for its efforts within the Partnership, the ENERGY STAR PARTNER may consider the following voluntary measures and should keep DOE informed on the progress of these efforts:

- Consider energy efficiency improvements in company facilities and pursue to benchmark their buildings through the ENERGY STAR Buildings program;
- Purchase ENERGY STAR qualified products. Revise the company purchasing or procurement specifications to include ENERGY STAR. Provide procurement officials' contact information to DOE for periodic updates and coordination. Circulate general ENERGY STAR qualified product information to employees for use when purchasing products for their homes;
- Ensure the power management feature is enabled on all ENERGY STAR qualified monitors in use in company facilities, particularly upon installation and after service is performed;
- Provide general information about the ENERGY STAR program to employees whose jobs are relevant to the development, marketing, sales, and service of current ENERGY STAR qualified product models;
- Feature the ENERGY STAR mark(s) on PARTNER web site and in other promotional materials. If information concerning ENERGY STAR is provided on the PARTNER web site, DOE may provide links where appropriate to the PARTNER web site;
- Provide a simple plan to DOE outlining specific measures PARTNER plans to undertake beyond the program requirements listed above. By doing so, DOE may be able to coordinate, communicate, and/or promote PARTNER's activities, provide a DOE representative, or include news about the event in the ENERGY STAR newsletter, on the ENERGY STAR web pages, etc. The plan may be as simple as providing a list of planned activities or planned milestones for which the PARTNER would like DOE to be aware. For example, activities may include:
  - (1) Increase the availability of ENERGY STAR qualified products by converting the entire product line within two years to meet ENERGY STAR guidelines;
  - (2) Demonstrate the economic and environmental benefits of energy efficiency through special in-store displays twice a year;
  - (3) Provide information to users (via the web site and user's manual) about energy-saving features and operating characteristics of ENERGY STAR qualified products, and
  - (4) Build awareness of the ENERGY STAR Partnership and brand identity by collaborating with DOE on one print advertorial and one live press event;
- Provide quarterly, written updates to DOE as to the efforts undertaken by PARTNER to increase availability of ENERGY STAR qualified products, and to promote awareness of ENERGY STAR and its message.



## ENERGY STAR® Program Eligibility Criteria for Clothes Washers *as of February 12, 2008*

Below are the product criteria for ENERGY STAR qualified clothes washers. A product must meet all of the identified criteria to be labeled as ENERGY STAR qualified by its manufacturer.

1) **Definitions:**

- a) **Modified Energy Factor (MEF):** The present energy efficiency measure for all clothes washers. MEF is the quotient of the cubic foot capacity of the clothes container divided by the total clothes washer energy consumption per cycle, with such energy consumption expressed as the sum of the machine electrical energy consumption, the hot water energy consumption, and the energy required for removal of the remaining moisture in the wash load. The units are cubic feet per kWh per cycle (ft<sup>3</sup>/kWh/cycle). The higher the value, the more efficient the clothes washer. MEF must be determined by the J1 test procedure (see below).
- b) **Water Factor (WF):** The present water efficiency calculation that allows the comparison of clothes washer water consumption independent of clothes washer capacity. The term is expressed as gallons per cycle per cubic feet. WF is the quotient of the total weighted per-cycle water consumption divided by the capacity of the clothes washer. The lower the value, the more efficient the clothes washer. WF has not been incorporated into the Federal standard but is included in the 2007 ENERGY STAR criteria.

2) **Qualifying Products:** The current DOE federal standard (NAECA) for clothes washers includes five product classes:

- |  |                   |
|--|-------------------|
| i) Top-loading < 1.6 ft <sup>3</sup> (compact)   | iv) Front-loading |
| ii) Top-loading ≥ 1.6 ft <sup>3</sup> (standard) | v) Suds-saving    |
| iii) Top-loading/semi automatic                  |                   |

Only standard sized (> 1.6ft<sup>3</sup>), front- or top-loading clothes washers are eligible for the ENERGY STAR clothes washer program.

3) **ENERGY STAR Criteria:** Only those products listed in Section 2 that meet the criteria below may qualify as ENERGY STAR.

|                      | Current ENERGY STAR<br>Criteria<br><i>as of January 1, 2007</i> | ENERGY STAR<br>Criteria<br><i>as of July 1, 2009</i> | ENERGY STAR<br>Criteria<br><i>as of January 1, 2011</i> |
|----------------------|---|--|---|
| ENERGY STAR Criteria | MEF ≥ 1.72<br>WF ≤ 8.0  | MEF ≥ 1.8<br>WF ≤ 7.5                                | MEF ≥ 2.0<br>WF ≤ 6.0                                   |

- 4) **Test Criteria:** Clothes washer manufacturers must self-test their equipment according to the DOE test procedure defined in 10 CFR 430, Subpart B, Appendix J1. The J1 includes test provisions for machines with Adaptive Water Fill Control Systems (AWFCS). This control scheme determines automatically the amount of water used to wash a load based on the size and weight of the particular clothing load. MEF must be determined by the J1 test procedure.
- 5) **Effective Date:** The effective dates of these criteria are July 1, 2009 and January 1, 2011. A manufacturer has one year after signing the Partnership Agreement or after each criteria change to ensure that the ENERGY STAR label appears directly on at least one ENERGY STAR qualified clothes washer model.
- 6) **Future Criteria Revisions:** ENERGY STAR reserves the right to change the criterion should technological and/or market changes affect its usefulness to consumers, industry, or the environment. Keeping with current policy, industry/stakeholder discussions determine revisions to the criteria.

EXHIBIT 4  
FILED UNDER  
SEAL

EXHIBIT 5  
FILED UNDER  
SEAL

# EXHIBIT 6

March 20, 2007

U.S. Department of Energy  
Attn: Alexander Karsner, Assistant Secretary of  
Energy Efficiency & Renewable Energy  
1000 Independence Ave., SW  
Washington DC, 20585-J1

**Re: Petition for Waiver & Application for Interim Waiver regarding  
Measurement of Clothes Container Capacity in Vertical Axis Clothes Washers**

Dear Assistant Secretary:

Whirlpool Corporation ("Whirlpool") is submitting this Petition for Waiver, and Application for Interim Waiver, pursuant to 10 CFR 430.27, regarding the Department of Energy ("DOE") Test Procedures for energy and water consumption of clothes washers.

The Waiver and Interim Waiver are requested to approve measurement of clothes container capacity in vertical axis washers to the top of the tub cover, in washers that contain such a component. The J1 test procedure is silent as to the level to which the clothes container capacity should be measured in vertical axis washers. Without further DOE clarification, Whirlpool will lack certainty as to the manner by which it should measure clothes container capacity in vertical axis washers.

Whirlpool submits that the proposed measurement method is fully consistent with the DOE test procedures, and that this request is consistent with DOE's authority to grant a Waiver. Whirlpool further submits that it is within the DOE's authority to grant an Interim Waiver to provide clarity on the test procedure for energy and water consumption of clothes washers, and to avoid economic hardship and competitive disadvantage.

**1. Whirlpool Corporation**

Whirlpool is a leading manufacturer of home appliances. Whirlpool sells clothes washers and other home appliances in major countries around the world, including in the United States. In the US, Whirlpool's appliances are marketed under the following brands: "Whirlpool", "Maytag", "KitchenAid", "Jenn Air", "Amana", "Roper", "Estate", "Magic Chef" and others. Whirlpool is a leading supplier of home appliances, including clothes washers, to Sears, Roebuck & Co., which Sears sells under the "Kenmore" brand. Whirlpool's worldwide headquarters are located at 2000 North M-63, Benton Harbor, Michigan, USA.

**2. Basic Models Subject To The Waiver Request**

This Petition For Waiver and Application For Interim Waiver is for all basic models of vertical axis clothes washers manufactured by Whirlpool Corporation that contain a tub cover as described herein.

**3. Requested Waiver**

Whirlpool requests approval to measure the clothes container capacity to the upper edge of the tub cover in vertical axis clothes washers containing such a component. The tub cover is an annular device located in the upper portion of the interior space of the clothes washer. The tub cover closes a gap that would otherwise exist between the upper edge of the balance ring (which is affixed to the top edge of the



basket), and the upper rim of the stationary washer tub. The tub cover prevents articles of clothing from becoming lodged or lost in the space between the washer tub and basket. The tub cover represents the top of the clothes container in Whirlpool vertical axis clothes washers that contain a tub cover.

An engineering drawing is attached at Exhibit A illustrating a cut-away section of a vertical axis clothes washer and showing the location of a tub cover. The drawing is provided as an illustrative example, and is not intended to limit this waiver to the exact dimensions or configuration of the drawing.

#### **4. Regulatory Framework**

The DOE regulations provide in 10 CFR 430.27 that a manufacturer may seek a waiver “... upon the grounds that the basic model contains one or more design characteristics which ... prevent testing of the basic model according to the prescribed test procedures... .”

The test procedure for measuring energy and water consumption of clothes washers is contained in 10 CFR 430, Subpart B, Appendix J1 (“J1”), and requires manufacturers to measure the capacity of the washer’s clothes container. Clothes container capacity is a factor in the calculation of Water Consumption Factor (J1, Sec. 4.2.3), Modified Energy Factor (J1, Sec. 4.4), and Energy Factor (J1, Sec. 4.5) for clothes washers.

Section 1.4 of J1 defines “clothes container” as “... the compartment within the clothes washer that holds the clothes during the operation of the machine.”

Sections 3.1 through 3.1.5 of J1 specify the steps to measure the capacity of the clothes container. Section 3.1 instructs manufacturers to “Measure the entire volume which a dry clothes load could occupy within the clothes container during washer operation... .” Sections 3.1.1 through 3.1.5 prescribe a series of steps in which the clothes washer is weighed (empty), lined with a plastic sheet, and then filled with water to the “upper edge” of the clothes container. Section 3.1.1 specifies that the test should be performed “... so that the container will hold the maximum amount of water.” Section 3.1.5 provides a calculation for the clothes container capacity, in cubic feet, based on the change in mass of the washer with the clothes container filled with water.

#### **5. Measurement To Tub Cover Is Consistent With J1**

The J1 procedure does not identify or limit specific components of the clothes washer that form the clothes container. In the absence of more specific language, it is permissible and fully consistent with J1 to construe the clothes container to mean the space formed by inter-related components within the clothes washer, such as the top of the tub cover.

In Whirlpool vertical axis clothes washers containing a tub cover, measuring the clothes container capacity to the top edge of the tub cover is fully consistent with the J1 procedure. Section 3.1 of J1 instructs manufacturers to “Measure the entire volume which a dry clothes load could occupy within the clothes container during washer operation... .” In a Whirlpool vertical axis clothes washer, a dry clothes load could occupy the space up to, or even above, the tub cover during washer operation.

The J1 procedure suggests that manufacturers should attempt to conduct measurements in a manner that maximizes the clothes container capacity. For example, section 3.1 says that the measurement should be performed “... so that the container will hold the maximum amount of water.” Measuring capacity to the top of the tub cover is consistent with this directive.

#### **6. Other Manufacturers With Similar Design Characteristics**

Whirlpool has not performed a comprehensive tear down of vertical axis clothes washers from other manufacturers to determine which, if any, contain a tub cover as described herein. Whirlpool has no reason to believe that the tub cover is unique to Whirlpool vertical axis clothes washers. There is a reasonable likelihood that vertical axis clothes washers from other manufacturers may contain a tub cover

or similar component. Names and addresses of other manufacturers of vertical axis clothes washers made or sold in the U.S. are listed on the attached Exhibit B.

#### **7. Possible Alternate Test Procedures**

As noted above, the J1 procedure does not identify or limit specific components of the clothes washer that form the clothes container. It is conceivable that a manufacturer could interpret the J1 procedure to permit measurement of clothes container capacity to other points within the clothes washer.

The J1 procedure could be interpreted to permit measurement of the clothes container capacity to coincide with the upper rim of the basket or balancing ring within the clothes washer. However, there is no specific text within J1 that limits measurement to the basket rim or balancing ring. As noted above, such a limitation may be inconsistent with portions of J1 that suggest a manufacturer should maximize the volume of the clothes container for capacity measurement.

Taken to an extreme, it may be possible to construe the J1 procedure to permit measurement of the clothes container capacity to the interior of the washer lid, since (using the terminology of J1) a dry clothes load could occupy that space during washer operation. Such an approach would provide some consistency with the method for measuring clothes container capacity in horizontal axis clothes washers (which essentially involves measuring the full volume of the basket out to the door interior.) Although Whirlpool is not advocating measurement to the lid in this petition, Whirlpool would welcome any clarifying comments from DOE on whether such an interpretation would be permissible under J1.

Whirlpool submits that measuring the clothes container capacity to the top edge of the tub cover is a valid interpretation of J1, and represents a reasonable compromise between the extremes of the basket edge and lid as described above.

#### **8. Additional Justification For Interim Waiver Application**

Granting of an Interim Waiver is justified in this case because: (i) Whirlpool has provided strong evidence that demonstrates the likelihood of the granting of the Petition for Waiver; and (ii) Whirlpool will suffer significant economic hardship and competitive disadvantage if this Interim Waiver Application is not granted; and (iii) there are strong public policy justifications to issue an Interim Waiver to help promote uniform interpretation and application of the J1 procedure.

##### **a. Strong Likelihood That Waiver Will Be Granted**

Whirlpool has provided strong evidence that the Waiver should be granted. A Petition for Waiver is appropriate because the tub cover represents a design characteristic (pursuant to 10 CFR 430.27) of Whirlpool vertical axis clothes washers that prevents clarity as to the prescribed method for measuring clothes container capacity in vertical axis clothes washers. Whirlpool has provided ample information in this Petition for Waiver and Application for Interim Waiver explaining its rationale for measuring clothes container capacity to the top of the tub cover. Whirlpool has demonstrated that such measurement is consistent with the J1 procedure.

##### **b. Economic Hardship & Competitive Disadvantage**

In the absence of an Interim Waiver, Whirlpool will lack certainty as to the manner by which it should measure clothes container capacity in vertical axis washers containing a tub cover, since the J1 procedure is silent as to the exact point to which the capacity should be measured.

Denial of an Interim Waiver will cause economic hardship and competitive disadvantage for Whirlpool. There are long lead times and significant expenses associated with the design and manufacture of vertical axis clothes washers. Compliance with federally mandated energy and water consumption standards is a critical design factor for vertical axis clothes washers. Any delay in obtaining clarity on this issue will require Whirlpool to postpone key decisions regarding its investments to design and build

vertical axis washers, and/or require Whirlpool to implement costly contingency plans in the event these Waiver requests are not approved.

**c. Public Policy Favors Consistent Application Of J1**

Granting an Interim Waiver will help promote consistent interpretation and application of the J1 test procedure by clothes washer manufacturers. In the absence of such consistency, manufacturers may interpret and apply J1 in different ways that will skew the resulting energy data reflected on products, leading to possible consumer confusion.

**9. CERTIFICATION OF NOTICE TO OTHER MANUFACTURERS**

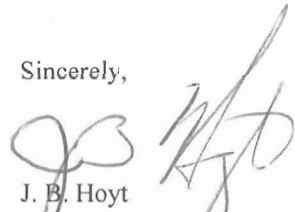
Whirlpool Corporation is providing concurrent notice of this Petition for Waiver & Application for Interim Waiver to the other known manufacturers of vertical axis clothes washers made or sold in the U.S., and to the home appliance industry association. The cover letters, including names and addresses of other known manufacturers and the industry association, is included in Exhibit B.

**10. CONCLUSION**

Whirlpool respectfully submits that the proposed measurement method is fully consistent with the J1 test procedures, and that this request is consistent with DOE's authority to grant Waivers. Whirlpool further submits that it is within the DOE's authority to grant an Interim Waiver in this case to provide clarity on the test procedure and to avoid economic hardship and competitive disadvantage for Whirlpool.

Whirlpool respectfully requests the Assistant Secretary's favorable response to this Petition for Waiver and Application for Interim Waiver.

Sincerely,

A handwritten signature in dark ink, appearing to be 'J. B. Hoyt', is written over the typed name.

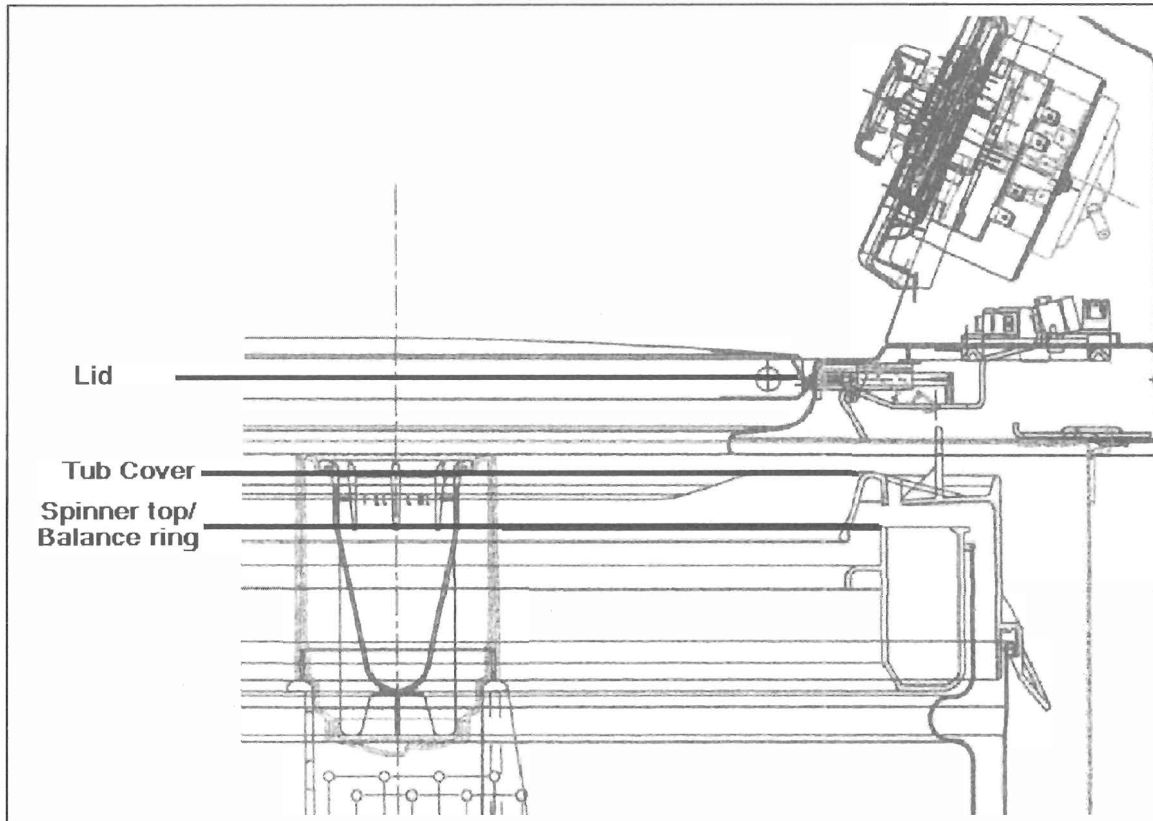
J. B. Hoyt  
Director, Government Relations  
Whirlpool Corporation



**Whirlpool Corporation Petition for Waiver & Application for Interim Waiver regarding  
Measurement of Clothes Container Capacity in Vertical Axis Clothes Washers**

**Exhibit A**

This drawing is a cut-away section of a vertical axis clothes washer, showing the location of a tub cover. This drawing is provided as an illustrative example, and is not intended to limit this waiver to the exact dimensions or configuration of the drawing.



**Exhibit B: Notice to Manufacturers**

---

March 20, 2007

Alliance Laundry Systems, LLC  
Attn: Philip J. Mantei  
PO Box 990  
Shepard Street  
Ripon, WI 54971

Electrolux Home Products  
Attn: Ed Buckles  
PO Box 212378  
Martinez, GA 30917

Association of Home Appliance Mfr's  
Attn: Wayne E. Morris  
1111 19th Street NW, Suite 402  
Washington, DC 20036

Fisher & Paykel Appliances Inc.  
Attn: Richard Bollard  
5900 Skylab Road  
Huntington Beach, CA 92647

Avanti Products  
10880 NW 30<sup>th</sup> Street  
Miami, FL 33172

General Electric Company  
Attn: Earl F. Jones  
3135 Easton Turnpike  
Fairfield, CT 06828-0001

Bosch Home Appliances Corporation  
Attn: Brian Chatot  
5551 McFadden Avenue  
Huntington Beach, CA 92649

Haier America  
Attn: Ilya Mosionzhnik  
45 W. 36<sup>th</sup> Street  
New York, NY 10018-7904

Danby Products, Inc.  
PO Box 669  
Findlay, OH 45839-0669

**Re: Notice of Whirlpool Corporation's Petition for Waiver & Application for Interim Waiver regarding Measurement of Clothes Container Capacity in Vertical Axis Clothes Washers**

Dear Madam or Sir:

Whirlpool Corporation ("Whirlpool") is submitting the enclosed Petition for Waiver and Application for Interim Waiver (pursuant to 10 CFR 430.27) to the US Department of Energy ("DOE"), relating to the Test Procedures for energy and water consumption of clothes washers. This letter provides notice to other known manufacturers of similar products. The DOE Assistant Secretary for Conservation and Renewable Energy will receive and consider timely written comments on the Petition for Waiver and Application for Interim Waiver. Any manufacturer submitting written comments should provide a copy to Whirlpool Corporation at the address shown below.

Whirlpool Corporation  
Attn: Thomas A. Schwyn, Senior Counsel  
2000 M-63 North  
Benton Harbor, MI 49022  
Fax: 269/923-6221  
Email: thomas\_a\_schwyn@whirlpool.com

# EXHIBIT 7

May 14, 2007

J. B. Hoyt (Whirlpool),

This is in response to your letter dated March 20, 2007, and e-mails dated April 19, 2007, May 4, 2007 and May 10, 2007; requesting a petition for waiver and application for interim waiver regarding the measurement of clothes container capacity in vertical axis clothes washers. Upon review of these documents and Alliance Laundry Systems letter dated April 20, 2007, I do not feel that a waiver is necessary. I agree with your assessment in your waiver request that the measurement of the clothes container capacity to the upper edge of the tub cover in vertical axis clothes washer containing such a component.

No further action is necessary at this time. If you need any further clarification, please contact me.

Thank you,  
Bryan Berringer  
U.S. Department of Energy  
1000 Independence Ave., SW  
Washington, DC 20585  
(202) 586-0371  
FAX (202) 586-4617  
E-mail: bryan.berringer@ee.doe.gov

J B Hoyt@whirlpool.  
com  
bryan.berringer@ee.doe.gov

04/19/2007 01:38 PM  
Basket Measurement Clarification Request

To: bryan.berringer@ee.doe.gov,  
cc:  
Subject: Whirlpool Washer

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| ( ) Federal Record |  
| (\*) Not a Federal Record |  
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User Filed as: Not Categorized in ERMS

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recipient, click the|
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mail               |
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Bryan:

Thanx for the call this morning. Attached is the waiver request we discussed. If we can treat this as a clarification, that would be preferable.

We look forward to hearing from you. thanx again!

(See attached file: DOE Waiver Request--Capacity 0307.pdf)

~~~~~

J.B. Hoyt  
Director, Regulatory Affairs & State Government Relations  
Whirlpool Corporation  
269/923-4647  
j.b.hoyt@whirlpool.com

<File(s) removed: DOE Waiver Request--Capacity 0307.pdf>

WDZ0006455



EXHIBIT 8  
FILED UNDER  
SEAL

EXHIBIT 9  
FILED UNDER  
SEAL

# EXHIBIT 10



To:  
Cc:  
Bcc:  
Subject: AHAM Ballot Results: Approval to Send DOE Letter Regarding CW Drum Volume  
From: "Messner, Kevin" <KMessner@AHAM.org> - Monday 09/21/2009 10:03 PM

To: DOE Laundry Task Force

Re: Ballot Results Approve Sending Attached Letter to the Department of Energy Regarding CW Drum Volume

---

The ballot results approve sending the attached letter to the Department of Energy regarding their 2007 response to Whirlpool's request for waiver on residential clothes washer drum volume measurement. Thank you for your time on this matter.

If you have any questions, please contact me.

Kevin Messner  
Vice President, Government Relations  
1111 19th Street NW, Suite 402, Washington, DC 20036  
t 202.872.5955 ext310 f 202.872.9354 e kmessner@aham.org  
Visit [www.aham.org](http://www.aham.org) or AHAM's Blog [aham.typepad.com](http://aham.typepad.com)



*Leadership » Knowledge » Innovation*

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Final letter to DOE with attachments.pdf



1111 19th Street NW • Suite 402 • Washington, DC 20036  
t 202.872.5956 / 202.872.9334 www.aham.org

September 14, 2009

U.S. Department of Energy  
Attn: Mr. Ronald Lewis, Program Manager, Office of Building Research and Standards  
1000 Independence Avenue, SW  
Washington D.C., 20585

Re: Vertical Axis Clothes Washer Clothes Container or Drum Volume Calculation

Dear Ron,

As you know AHAM represents virtually all manufacturers of clothes washers sold in the United States and Canada.

We are requesting on behalf of this industry, and to facilitate general understanding of the Department's views, a statement from the Department whether the May 14, 2007 response (attachment A) from the Department to Whirlpool Corporation represents the Department's interpretation of how to measure the capacity of a vertical axis clothes washer's clothes container or its drum volume under 10 CFR 430, subpart B, appendix J1 ("J1").

Whirlpool Corporation filed on March 20, 2007 a "Petition for Waiver and Application for Interim Waiver Regarding Measurement of Clothes Container Capacity in Vertical Axis Clothes Washers." (attachment B) Whirlpool requested approval to measure clothes container capacity in vertical axis washers "to the top of the tub cover, in washers that contain such a component." The petition described such covers and provided an illustrative drawing. Whirlpool explained why its interpretation of how to conduct the measurement in this regard is consistent with J1. Alliance Laundry Systems submitted a letter to the Department supporting Whirlpool's petition (attachment C).

In response, Department staff stated that a waiver was not necessary. The staff agreed with Whirlpool's assessment of how to measure the clothes container capacity. We request clarification whether this is the Department's position and is an interpretation generally applicable to all vertical axis clothes washers containing a tub cover. For your convenience, we attach a proposed clarification to the J1 test procedure that follows a Question and Answer (Q&A) format (attachment D).

A timely response to this request will be of significant public benefit in ensuring a common industry approach to measure capacity of machines with this feature.

Sincerely,

Debra K. Brunk, Ph.D.  
Vice President, Technical Services

**ATTACHMENT A**

May 14, 2007

J. B. Hoyt (Whirlpool),

This is in response to your letter dated March 20, 2007, and e-mails dated April 19, 2007, May 4, 2007 and May 10, 2007; requesting a petition for waiver and application for interim waiver regarding the measurement of clothes container capacity in vertical axis clothes washers. Upon review of these documents and Alliance Laundry Systems letter dated April 20, 2007, I do not feel that a waiver is necessary. I agree with your assessment in your waiver request that the measurement of the clothes container capacity to the upper edge of the tub cover in vertical axis clothes washer containing such a component.

No further action is necessary at this time. If you need any further clarification, please contact me.

Thank you,  
Bryan Berringer  
U.S. Department of Energy  
1000 Independence Ave., SW  
Washington, DC 20585  
(202) 586-0371  
FAX (202) 586-4617  
E-mail: bryan.berringer@ee.doe.gov

J B Hoyt@whirlpool.  
com  
bryan.berringer@ee.doe.gov

04/19/2007 01:38 PM  
Basket Measurement Clarification Request

To: bryan.berringer@ee.doe.gov,

cc:

Subject: Whirlpool Washer

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| ( ) Federal Record       |
| (*) Not a Federal Record |
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User Filed as: Not Categorized in ERMS

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recipient, click the|
|   | 'File to ERMS' button in the toolbar to categorize this e-
mail               |
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Bryan:

Thanx for the call this morning. Attached is the waiver request we discussed. If we can treat this as a clarification, that would be preferable.

We look forward to hearing from you. thanx again!

(See attached file: DOE Waiver Request--Capacity 0307.pdf)

~~~~~

J.B. Hoyt  
Director, Regulatory Affairs & State Government Relations  
Whirlpool Corporation  
269/923-4647  
j.b.hoyt@whirlpool.com

<File(s) removed: DOE Waiver Request--Capacity 0307.pdf>

WDZ0011311

**ATTACHMENT B**

March 20, 2007

U.S. Department of Energy  
Attn: Alexander Karsner, Assistant Secretary of  
Energy Efficiency & Renewable Energy  
1000 Independence Ave., SW  
Washington DC, 20585-J1

**Re: Petition for Waiver & Application for Interim Waiver regarding  
Measurement of Clothes Container Capacity in Vertical Axis Clothes Washers**

Dear Assistant Secretary:

Whirlpool Corporation ("Whirlpool") is submitting this Petition for Waiver, and Application for Interim Waiver, pursuant to 10 CFR 430.27, regarding the Department of Energy ("DOE") Test Procedures for energy and water consumption of clothes washers.

The Waiver and Interim Waiver are requested to approve measurement of clothes container capacity in vertical axis washers to the top of the tub cover, in washers that contain such a component. The J1 test procedure is silent as to the level to which the clothes container capacity should be measured in vertical axis washers. Without further DOE clarification, Whirlpool will lack certainty as to the manner by which it should measure clothes container capacity in vertical axis washers.

Whirlpool submits that the proposed measurement method is fully consistent with the DOE test procedures, and that this request is consistent with DOE's authority to grant a Waiver. Whirlpool further submits that it is within the DOE's authority to grant an Interim Waiver to provide clarity on the test procedure for energy and water consumption of clothes washers, and to avoid economic hardship and competitive disadvantage.

**1. Whirlpool Corporation**

Whirlpool is a leading manufacturer of home appliances. Whirlpool sells clothes washers and other home appliances in major countries around the world, including in the United States. In the US, Whirlpool's appliances are marketed under the following brands: "Whirlpool", "Maytag", "KitchenAid", "Jenn Air", "Amana", "Roper", "Estate", "Magic Chef" and others. Whirlpool is a leading supplier of home appliances, including clothes washers, to Sears, Roebuck & Co., which Sears sells under the "Kenmore" brand. Whirlpool's worldwide headquarters are located at 2000 North M-63, Benton Harbor, Michigan, USA.

**2. Basic Models Subject To The Waiver Request**

This Petition For Waiver and Application For Interim Waiver is for all basic models of vertical axis clothes washers manufactured by Whirlpool Corporation that contain a tub cover as described herein.

**3. Requested Waiver**

Whirlpool requests approval to measure the clothes container capacity to the upper edge of the tub cover in vertical axis clothes washers containing such a component. The tub cover is an annular device located in the upper portion of the interior space of the clothes washer. The tub cover closes a gap that would otherwise exist between the upper edge of the balance ring (which is affixed to the top edge of the



basket), and the upper rim of the stationary washer tub. The tub cover prevents articles of clothing from becoming lodged or lost in the space between the washer tub and basket. The tub cover represents the top of the clothes container in Whirlpool vertical axis clothes washers that contain a tub cover.

An engineering drawing is attached at Exhibit A illustrating a cut-away section of a vertical axis clothes washer and showing the location of a tub cover. The drawing is provided as an illustrative example, and is not intended to limit this waiver to the exact dimensions or configuration of the drawing.

#### **4. Regulatory Framework**

The DOE regulations provide in 10 CFR 430.27 that a manufacturer may seek a waiver “... upon the grounds that the basic model contains one or more design characteristics which ... prevent testing of the basic model according to the prescribed test procedures...”

The test procedure for measuring energy and water consumption of clothes washers is contained in 10 CFR 430, Subpart B, Appendix J1 (“J1”), and requires manufacturers to measure the capacity of the washer’s clothes container. Clothes container capacity is a factor in the calculation of Water Consumption Factor (J1, Sec. 4.2.3), Modified Energy Factor (J1, Sec. 4.4), and Energy Factor (J1, Sec. 4.5) for clothes washers.

Section 1.4 of J1 defines “clothes container” as “... the compartment within the clothes washer that holds the clothes during the operation of the machine.”

Sections 3.1 through 3.1.5 of J1 specify the steps to measure the capacity of the clothes container. Section 3.1 instructs manufacturers to “Measure the entire volume which a dry clothes load could occupy within the clothes container during washer operation...” Sections 3.1.1 through 3.1.5 prescribe a series of steps in which the clothes washer is weighed (empty), lined with a plastic sheet, and then filled with water to the “upper edge” of the clothes container. Section 3.1.1 specifies that the test should be performed “... so that the container will hold the maximum amount of water.” Section 3.1.5 provides a calculation for the clothes container capacity, in cubic feet, based on the change in mass of the washer with the clothes container filled with water.

#### **5. Measurement To Tub Cover Is Consistent With J1**

The J1 procedure does not identify or limit specific components of the clothes washer that form the clothes container. In the absence of more specific language, it is permissible and fully consistent with J1 to construe the clothes container to mean the space formed by inter-related components within the clothes washer, such as the top of the tub cover.

In Whirlpool vertical axis clothes washers containing a tub cover, measuring the clothes container capacity to the top edge of the tub cover is fully consistent with the J1 procedure. Section 3.1 of J1 instructs manufacturers to “Measure the entire volume which a dry clothes load could occupy within the clothes container during washer operation...” In a Whirlpool vertical axis clothes washer, a dry clothes load could occupy the space up to, or even above, the tub cover during washer operation.

The J1 procedure suggests that manufacturers should attempt to conduct measurements in a manner that maximizes the clothes container capacity. For example, section 3.1 says that the measurement should be performed “... so that the container will hold the maximum amount of water.” Measuring capacity to the top of the tub cover is consistent with this directive.

#### **6. Other Manufacturers With Similar Design Characteristics**

Whirlpool has not performed a comprehensive tear down of vertical axis clothes washers from other manufacturers to determine which, if any, contain a tub cover as described herein. Whirlpool has no reason to believe that the tub cover is unique to Whirlpool vertical axis clothes washers. There is a reasonable likelihood that vertical axis clothes washers from other manufacturers may contain a tub cover

or similar component. Names and addresses of other manufacturers of vertical axis clothes washers made or sold in the U.S. are listed on the attached Exhibit B.

#### **7. Possible Alternate Test Procedures**

As noted above, the J1 procedure does not identify or limit specific components of the clothes washer that form the clothes container. It is conceivable that a manufacturer could interpret the J1 procedure to permit measurement of clothes container capacity to other points within the clothes washer.

The J1 procedure could be interpreted to permit measurement of the clothes container capacity to coincide with the upper rim of the basket or balancing ring within the clothes washer. However, there is no specific text within J1 that limits measurement to the basket rim or balancing ring. As noted above, such a limitation may be inconsistent with portions of J1 that suggest a manufacturer should maximize the volume of the clothes container for capacity measurement.

Taken to an extreme, it may be possible to construe the J1 procedure to permit measurement of the clothes container capacity to the interior of the washer lid, since (using the terminology of J1) a dry clothes load could occupy that space during washer operation. Such an approach would provide some consistency with the method for measuring clothes container capacity in horizontal axis clothes washers (which essentially involves measuring the full volume of the basket out to the door interior.) Although Whirlpool is not advocating measurement to the lid in this petition, Whirlpool would welcome any clarifying comments from DOE on whether such an interpretation would be permissible under J1.

Whirlpool submits that measuring the clothes container capacity to the top edge of the tub cover is a valid interpretation of J1, and represents a reasonable compromise between the extremes of the basket edge and lid as described above.

#### **8. Additional Justification For Interim Waiver Application**

Granting of an Interim Waiver is justified in this case because: (i) Whirlpool has provided strong evidence that demonstrates the likelihood of the granting of the Petition for Waiver; and (ii) Whirlpool will suffer significant economic hardship and competitive disadvantage if this Interim Waiver Application is not granted; and (iii) there are strong public policy justifications to issue an Interim Waiver to help promote uniform interpretation and application of the J1 procedure.

##### **a. Strong Likelihood That Waiver Will Be Granted**

Whirlpool has provided strong evidence that the Waiver should be granted. A Petition for Waiver is appropriate because the tub cover represents a design characteristic (pursuant to 10 CFR 430.27) of Whirlpool vertical axis clothes washers that prevents clarity as to the prescribed method for measuring clothes container capacity in vertical axis clothes washers. Whirlpool has provided ample information in this Petition for Waiver and Application for Interim Waiver explaining its rationale for measuring clothes container capacity to the top of the tub cover. Whirlpool has demonstrated that such measurement is consistent with the J1 procedure.

##### **b. Economic Hardship & Competitive Disadvantage**

In the absence of an Interim Waiver, Whirlpool will lack certainty as to the manner by which it should measure clothes container capacity in vertical axis washers containing a tub cover, since the J1 procedure is silent as to the exact point to which the capacity should be measured.

Denial of an Interim Waiver will cause economic hardship and competitive disadvantage for Whirlpool. There are long lead times and significant expenses associated with the design and manufacture of vertical axis clothes washers. Compliance with federally mandated energy and water consumption standards is a critical design factor for vertical axis clothes washers. Any delay in obtaining clarity on this issue will require Whirlpool to postpone key decisions regarding its investments to design and build

vertical axis washers, and/or require Whirlpool to implement costly contingency plans in the event these Waiver requests are not approved.

**c. Public Policy Favors Consistent Application Of J1**

Granting an Interim Waiver will help promote consistent interpretation and application of the J1 test procedure by clothes washer manufacturers. In the absence of such consistency, manufacturers may interpret and apply J1 in different ways that will skew the resulting energy data reflected on products, leading to possible consumer confusion.

**9. CERTIFICATION OF NOTICE TO OTHER MANUFACTURERS**

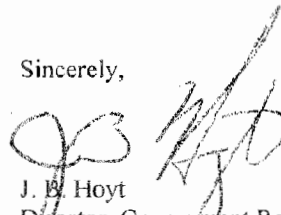
Whirlpool Corporation is providing concurrent notice of this Petition for Waiver & Application for Interim Waiver to the other known manufacturers of vertical axis clothes washers made or sold in the U.S., and to the home appliance industry association. The cover letters, including names and addresses of other known manufacturers and the industry association, is included in Exhibit B.

**10. CONCLUSION**

Whirlpool respectfully submits that the proposed measurement method is fully consistent with the J1 test procedures, and that this request is consistent with DOE's authority to grant Waivers. Whirlpool further submits that it is within the DOE's authority to grant an Interim Waiver in this case to provide clarity on the test procedure and to avoid economic hardship and competitive disadvantage for Whirlpool.

Whirlpool respectfully requests the Assistant Secretary's favorable response to this Petition for Waiver and Application for Interim Waiver.

Sincerely,

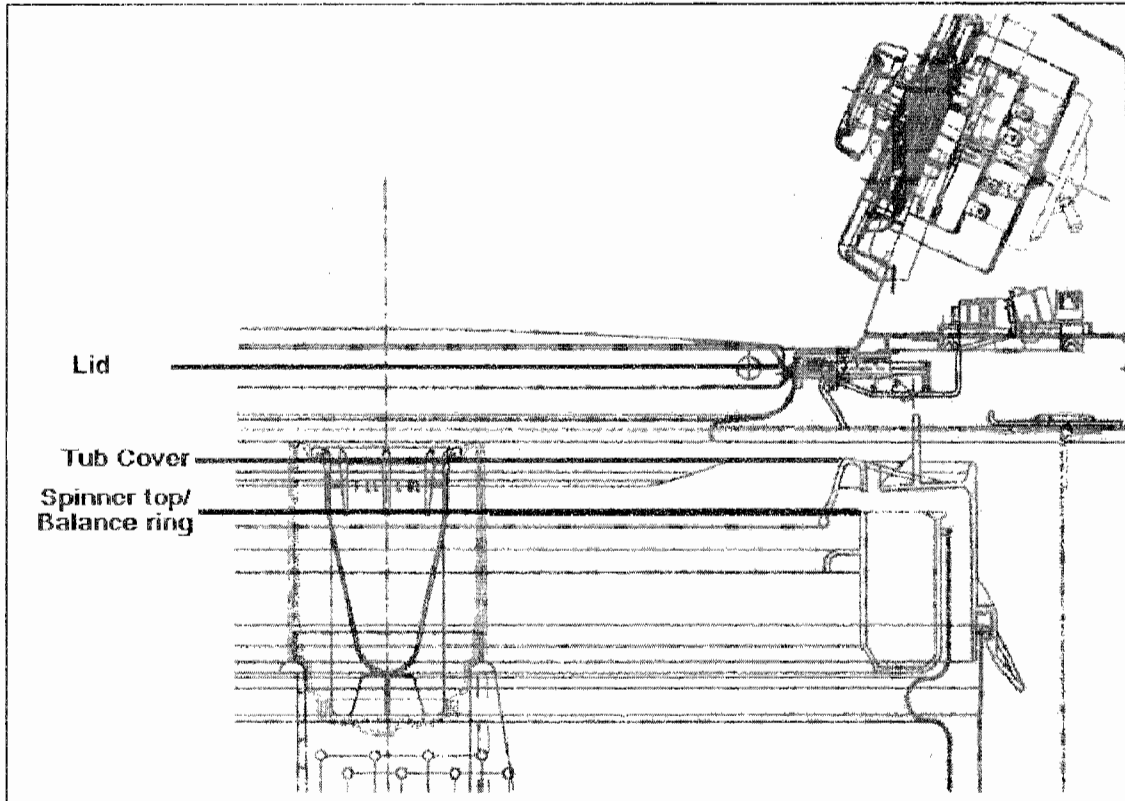


J. B. Hoyt  
Director, Government Relations  
Whirlpool Corporation

**Whirlpool Corporation Petition for Waiver & Application for Interim Waiver regarding  
Measurement of Clothes Container Capacity in Vertical Axis Clothes Washers**

**Exhibit A**

This drawing is a cut-away section of a vertical axis clothes washer, showing the location of a tub cover. This drawing is provided as an illustrative example, and is not intended to limit this waiver to the exact dimensions or configuration of the drawing.





**Exhibit B: Notice to Manufacturers**

---

March 20, 2007

Alliance Laundry Systems, LLC  
Attn: Philip J. Mantei  
PO Box 990  
Shepard Street  
Ripon, WI 54971

Electrolux Home Products  
Attn: Ed Buckles  
PO Box 212378  
Martinez, GA 30917

Association of Home Appliance Mfr's  
Attn: Wayne E. Morris  
1111 19th Street NW, Suite 402  
Washington, DC 20036

Fisher & Paykel Appliances Inc.  
Attn: Richard Bollard  
5900 Skylab Road  
Huntington Beach, CA 92647

Avanti Products  
10880 NW 30<sup>th</sup> Street  
Miami, FL 33172

General Electric Company  
Attn: Earl F. Jones  
3135 Easton Turnpike  
Fairfield, CT 06828-0001

Bosch Home Appliances Corporation  
Attn: Brian Chatot  
5551 McFadden Avenue  
Huntington Beach, CA 92649

Haier America  
Attn: Ilya Mosionzhnik  
45 W. 36<sup>th</sup> Street  
New York, NY 10018-7904

Danby Products, Inc.  
PO Box 669  
Findlay, OH 45839-0669

**Re: Notice of Whirlpool Corporation's Petition for Waiver & Application for Interim Waiver regarding Measurement of Clothes Container Capacity in Vertical Axis Clothes Washers**

Dear Madam or Sir:

Whirlpool Corporation ("Whirlpool") is submitting the enclosed Petition for Waiver and Application for Interim Waiver (pursuant to 10 CFR 430.27) to the US Department of Energy ("DOE"), relating to the Test Procedures for energy and water consumption of clothes washers. This letter provides notice to other known manufacturers of similar products. The DOE Assistant Secretary for Conservation and Renewable Energy will receive and consider timely written comments on the Petition for Waiver and Application for Interim Waiver. Any manufacturer submitting written comments should provide a copy to Whirlpool Corporation at the address shown below.

Whirlpool Corporation  
Attn: Thomas A. Schwyn, Senior Counsel  
2000 M-63 North  
Benton Harbor, MI 49022  
Fax: 269/923-6221  
Email: thomas\_a\_schwyn@whirlpool.com

WDZ0011317

## ATTACHMENT C

DOE Docket Number (none yet assigned by DOE)

Subject: *Comments in Response to Whirlpool Corporation March 20, 2007  
Petition for Waiver and Application for Interim Waiver Regarding Capacity Measurement of  
Clothes Container Capacity in Vertical-Axis Clothes Washers*

Alliance Laundry Systems LLC

April 20, 2007

Page 1 of 2

### **Comments for DOE's Consideration Regarding "Capacity Measurement of Vertical-Axis Clothes Washers"**

Alliance Laundry Systems is the world's largest commercial laundry equipment manufacturer. We manufacture commercial clothes washers under the Speed Queen™, Huebsch™, Unimac™, and IPSO™ trademarks in Ripon, Wisconsin. We also manufacture consumer residential laundry equipment under the Speed Queen™ trademark. We employ approximately 1,300 people in the USA. Thank you for the opportunity to comment.

The following comments are in response to Whirlpool Corporation's, March 20, 2007 Petition for Waiver and Application for Interim Waiver regarding measurement of clothes container capacity in vertical-axis clothes washers.

- We concur with Whirlpool's petition and application. We agree because we have interpreted the methodology of determining where to stop the filling of water for the measurement clothes container capacity, to be the top of the outer-tub-cover. It is obvious that dry clothes can be loaded into a vertical-axis clothes washer to the top of the outer-tub-cover and possibly all the way to the lid. We have drawn the line for capacity measurement to be at the outer-tub-cover top because it is where we believe most people would stop loading. A large load of dry clothes of sufficient size to occupy the volume all the way to the outer-tub-cover top, will absorb the incoming fill water, relax somewhat and be pulled farther down into the clothes container during agitation. Although initially the air in the clothes load causes buoyancy, and the load will actually rise, thus filling the upper most space. Therefore it is appropriate to count the volume that the dry clothes load actually uses in application.
- I (Phil Manthei) was a member of the industry group that gathered in 1994 / 1995 to work on developing a proposal for what became the revised Test Procedure for Clothes Washer commonly referred to as Appendix J1. We struggled with how to better define the physical measurement of clothes container capacity. In the end, no significant changes were made from the Appendix J, which was the existing test procedure at the time. The reason for making little change dealt with the varying designs in the industry at the top portion of the clothes container tub, balance ring, outer-tub-cover and agitator. What might seem easy to define as the upper most measurement location in one design, could not be applied to other

## ATTACHMENT C

DOE Docket Number (none yet assigned by DOE)

Subject: *Comments in Response to Whirlpool Corporation March 20, 2007*  
*Petition for Waiver and Application for Interim Waiver Regarding Capacity Measurement of*  
*Clothes Container Capacity in Vertical-Axis Clothes Washers*

Alliance Laundry Systems LLC

April 20, 2007

Page 2 of 2

designs. Today's designs of vertical-axis clothes washers appear to all have an outer-tub-cover and thus it would make sense to set that as the "upper-most edge of the clothes container".

- Alliance Laundry Systems has measured competitive products for clothes container capacity in the past and found that the vertical-axis clothes washers produced by Maytag (now a Whirlpool Division) could only achieve their advertised DOE capacity if the measurement (filling of water into the plastic lined container) terminated at the outer-tub-cover. Alliance Laundry Systems did not always measure and advertise its product's DOE capacity by measuring all the way to the tub cover, but began doing so with the effective date of the 2007 Minimum Standard, after realizing that Maytag appeared to rate their vertical-axis clothes washers in that manner. We did not see a need to file a petition for waiver and application for interim waiver with DOE in making our determination of where to terminate the measurement. We understand Whirlpool's need for certainty in their future design plans, and support their proposal to terminate the capacity measurement at the top of the outer-tub-cover, as we have already made such a determination unilaterally for rating of our vertical-axis clothes washers.
- Alliance Laundry Systems would be greatly harmed if DOE ruled that the clothes container capacity measurement should be terminated below the top of the outer-tub-cover. As explained above, we currently require utilizing the top of the outer-tub-cover termination point for capacity measurement to achieve the existing Minimum Standard for our vertical-axis clothes washers.

In summary, we fully support Whirlpool's proposal for measurement of clothes container capacity for vertical-axis clothes washers.

Respectfully submitted,

Phil Manthei  
Sr. Staff Engineer, Agency/Codes Approval  
Alliance Laundry Systems LLC

WDZ0011319

### **Proposed Clarification to 10 CFR 430, Subpart B, Appendix J1 in Q & A Format**

To aid the Department, we have developed a clarification to the J1 test procedure that follows a Question and Answer (Q & A) format, consistent with FAQ documents currently published on the DOE website for other covered products.

**Q:** 10 CFR 430, Subpart B, Appendix J1 Section 3.1 states that the clothes container capacity should be determined by “Measure[ing] the entire volume which a dry clothes load could occupy within the clothes container during washer operation according to sections 3.1.1 through 3.1.5”. Some vertical axis washers include a tub cover which is an annular device located in the upper portion of the interior space of the clothes washer. The tub cover closes a gap that would otherwise exist between the upper edge of the balance ring (which is affixed to the top edge of the basket), and the upper rim of the stationary washer tub. The tub cover prevents articles of clothing from becoming lodged or lost in the space between the washer tub and basket. The tub cover may represent the top of the clothes container in vertical axis clothes washers that contain a tub cover. If a tub cover is present on a vertical axis washer, can the clothes container capacity be determined by measuring to the top of the tub cover?

**A:** As noted in the question, Appendix J1, Section 3.1 states the following for determining clothes container capacity: “Measure the entire volume which a dry clothes load could occupy within the clothes container during washer operation according to sections 3.1.1 through 3.1.5”. Appendix J1, Section 3.1.1 also states “Place the clothes washer in such a position that the uppermost edge of the clothes container opening is leveled horizontally, so that the container will hold the maximum amount of water”. In addition, the J1 procedure does not identify or limit specific components of the clothes washer that form the clothes container. Since dry clothes may occupy the space created by the tub cover and the J1 test procedure state that the container should hold the maximum amount of water when determining drum volume, clothes container capacity may be measured to the upper edge of the tub cover in vertical axis clothes washers containing such a component.



# EXHIBIT 11



2000 M 63 · Mail Drop 3005 · Benton Harbor, Michigan 49022 · Phone: 269/923-4647 · j.b.hoyt@whirlpool.com

J.B. HOYT  
DIRECTOR, GOVERNMENT RELATIONS

*Via email* [Clothes\\_Container\\_FAQ@HQ.DOE.gov](mailto:Clothes_Container_FAQ@HQ.DOE.gov)

June 9, 2010

Stephen Witkowski  
U.S. Department of Energy, Building Technologies Program  
1000 Independence Avenue, SW  
Washington, DC 20585-0121

**Re: Response to DOE's draft interpretation of the test procedure for measuring the capacity of clothes washers**

Dear Mr. Witkowski,

On May 13, 2010, the Department of Energy ("DOE" or "Department") posted a request on its website<sup>1</sup> soliciting comments regarding a draft interpretation of its test procedures applicable to clothes washers as set forth in 10 C.F.R. Part 430, Subpart B, Appendix J1 ("J1 Test Procedure").<sup>2</sup> Specifically, DOE posed the following question: "For purposes of measuring the clothes container capacity under 10 CFR 430, Subpart B, Appendix J1 test procedures, what is considered the clothes container?"

In the May 13 posting, DOE provided its draft interpretation with respect to both top loading and front loading clothes washers. The May 13 Draft Interpretation proposes to interpret Section 3.1 of the J1 Test Procedure so that for top loading (vertical-axis) clothes washers, the maximum capacity is "Fill Level 3," and for front loading (horizontal-axis) clothes washers, maximum capacity is "Fill Volume B," as illustrated in the figures attached to the May 13 Draft Interpretation.

Whirlpool submits these comments regarding the proper interpretation of the J1 Test Procedure for measuring the clothes container capacity. As demonstrated below, measuring the clothes container capacity at Fill Level 4 in top loading machines is most consistent with the terms of the J1 Test Procedure.

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<sup>1</sup>

[http://www1.eere.energy.gov/buildings/appliance\\_standards/residential/pdfs/frequently\\_asked\\_questions\\_cw\\_final\\_05-13-2010.pdf](http://www1.eere.energy.gov/buildings/appliance_standards/residential/pdfs/frequently_asked_questions_cw_final_05-13-2010.pdf) (hereinafter, "May 13 Draft Interpretation").

<sup>2</sup> 10 C.F.R. Part 430, Subpart B, Appendix J1 (hereinafter, "J1 Test Procedure").

**I. Measuring capacity of top loading washers at Fill Level 4 is consistent with the language of the J1 Test Procedure.**

**A. Key provisions of the J1 Test Procedure**

Analysis of the test procedure requirements starts with the words of the test procedure itself. Section 3.1 of the J1 Test Procedure explains how a manufacturer must calculate the capacity of the clothes container. In relevant part, Section 3.1 provides:

- 3.1 Clothes container capacity. Measure the entire volume which a dry clothes load could occupy within the clothes container during washer operation according to the following procedures:
  - 3.1.1 Place the clothes washer in such a position that the uppermost edge of the clothes container opening is leveled horizontally, so that the container will hold the maximum amount of water.
  - 3.1.2 Line the inside of the clothes container with 2 mil (0.051 mm) plastic sheet. All clothes washer components which occupy space within the clothes container and which are recommended for use with the energy test cycle shall be in place and shall be lined with 2 mil (0.051 mm) plastic sheet to prevent water from entering any void space.
  - ...
  - 3.1.4 Fill the clothes container manually with either 60° F +/- 5° F [15.6° C +/- 2.8° C] or 100° F +/- 10° F [37.8° C +/- 5.5° C] water to its uppermost edge. Measure and record the weight of water, W, in pounds.<sup>3</sup>
  - ...

The test procedure calls for measuring “the **entire volume** which a dry clothes load **could occupy**”<sup>4</sup> by orienting the washer such that the “**uppermost edge** of the clothes container opening is leveled horizontally, so that the container will hold **the maximum amount of water**,”<sup>5</sup> and then filling the container with “water to its **uppermost edge**.”<sup>6</sup>

**B. May 13 Draft Interpretation**

Figure 1 in the May 13 Draft Interpretation sets forth various fill levels within a top loading washer. In that draft interpretation, DOE acknowledged that the clothes container of a top loading washer includes “an additional lip, edge, or shroud (commonly referred to as a tub cover)

<sup>3</sup> J1 Test Procedure, § 3.1.

<sup>4</sup> J1 Test Procedure, § 3.1 (emphasis added).

<sup>5</sup> J1 Test Procedure, § 3.1.1 (emphasis added).

<sup>6</sup> J1 Test Procedure, § 3.1.4 (emphasis added).

enclosing a volume within the clothes container that a dry clothing load could occupy.”<sup>7</sup> However, the draft interpretation states that the maximum fill level that is consistent with the test procedure corresponds to Fill Level 3 because it represents “the highest horizontal plane that a clothes load could occupy.” DOE’s Figure 1 is reproduced below:

**FIGURE 1**  
**Specification of Fill Levels for Top Loading Washers from May 13 Draft Interpretation**



Figure 1: Representation of Fill Levels for the Clothes Container Capacity Measurement  
for Vertical-Axis Clothes Washers

The draft interpretation further states that Fill Level 4, which represents the uppermost edge of the of the tub cover in Figure 1, is “not consistent with the capacity measurement method” of the J1 Test Procedure because it includes “volume enclosed by an additional lip, edge, or shroud that a clothing load could not occupy during washer operation.”<sup>8</sup> However, as explained below, measuring capacity at Fill Level 4 is proper under the J1 Test Procedure because:

1. Fill Level 4 is most consistent with the terms of the J1 Test Procedure;
2. Dry clothes loads could occupy the volume corresponding to Fill Level 4 during washer operation;
3. Measuring capacity at Fill Level 4 provides greater certainty and repeatability in testing; and
4. Fill Level 4 is consistent with the fill level used for front loading washers.

**C. Fill Level 4 is “the uppermost edge of the clothes container.”**

The clothes container for both top loading and front loading clothes washers consists of the washer basket and tub structure.<sup>9</sup> As described above, the J1 Test Procedure measures capacity by filling the clothes container with water up to “the uppermost edge.”<sup>10</sup> Selecting a measurement level that is below the “uppermost edge” of the clothes contain would be in direct conflict with the precise language of the J1 Test Procedure.

<sup>7</sup> May 13 Draft Interpretation.

<sup>8</sup> May 13 Draft Interpretation (clothes container “includes an additional lip, edge or shroud (commonly referred to as a tub cover) enclosing a volume within the clothes container that a dry clothing load could occupy”).

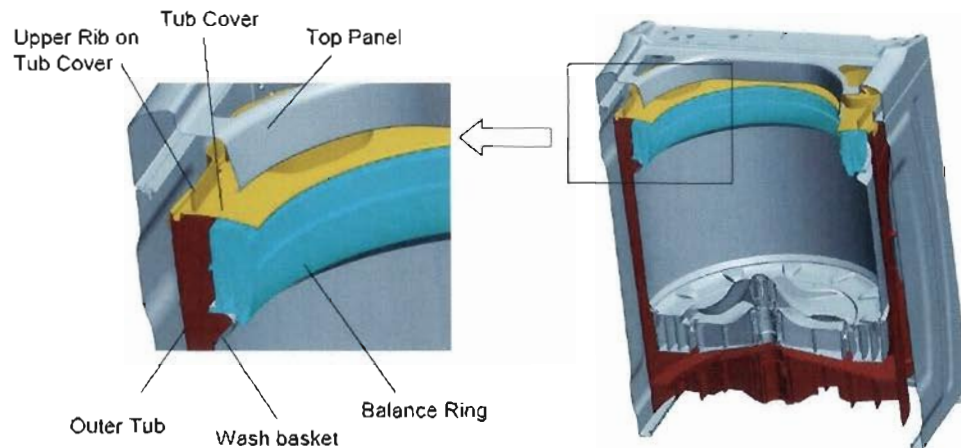
<sup>9</sup> See May 13 Draft Interpretation.

<sup>10</sup> J1 Test Procedure, § 3.1.4.

As demonstrated in the figures below, the upper rib of the tub cover is the uppermost edge of the clothes container that includes space that dry clothes load “could occupy” during washer operation.

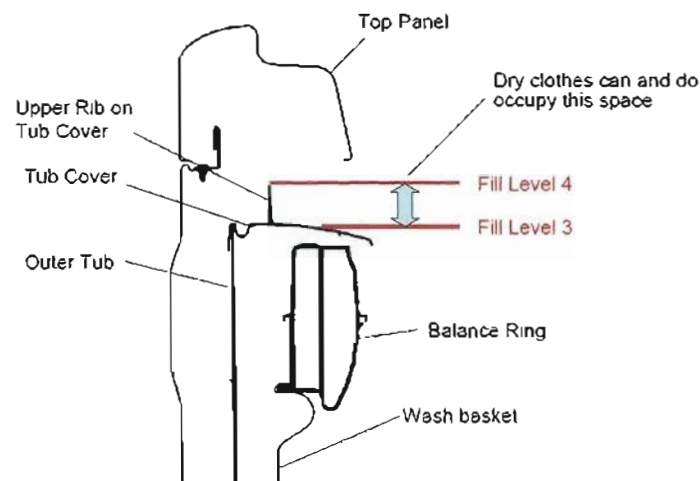
**FIGURE 2**

**Three-dimensional cross sectional view of top loading clothes washer showing tub, wash basket, tub cover and top panel structure**



**FIGURE 3**

**Two-dimensional cross sectional view of top loading clothes washer showing tub, wash basket, tub cover and top panel structure**



As set forth in the May 13 Draft Interpretation, the difference between Fill Level 3 and Fill Level 4 appears to be the height of an upper rib located on the top of the tub cover. The rib is located around the outer rim of the clothes container to ensure that water does not splash out of the tub



and clothes do not fall between the outer tub and the cabinet—preventing the stereotypical “lost sock.” As such, the upper rib is an essential part of the tub cover because it performs an integral role in the washer operation; i.e. helps to prevent loss of clothing items and avoids splash-out. Because the tub cover is part of the clothes container, and the upper rib is a part of the tub cover, the upper rib also is properly considered part of the clothes container. The rib is literally designed to contain clothes (and prevent water splash-out). Thus, the upper rib of the tub cover, which corresponds to DOE’s Fill Level 4, establishes the upper edge of the clothes container,<sup>11</sup> and is properly used for capacity measurements.

**D. Dry clothes load “could occupy” the volume within the clothes container up to Fill Level 4.**

Section 3.1 of the J1 Test Procedure requires manufacturers to measure the “entire volume” of the clothes container that dry clothes load “could occupy.” Dry clothes can and do occupy the space that is between Fill Level 3 and Fill Level 4.<sup>12</sup> In fact, a consumer can fill a top loading washer with dry clothes up to a level approaching the underside of the lid that covers the clothes container. This level is even higher than Fill Level 4 – a possible Fill Level 5.

Filling top loading clothes washers above Fill Level 3, and even above Fill Level 4, is not just a theoretical possibility, it is a loading practice used by some consumers that has been observed by Whirlpool. Figure 4 shows real-world dry clothes loads. These pictures are of actual consumer loads taken during field tests of Whirlpool clothes washers. As these pictures show, some consumers do load washers at or above Fill Level 4.

**FIGURE 4**  
**Actual customer dry clothes loads from field testing**



<sup>11</sup> DOE may be concerned about the possibility of gaming this interpretation by using a tub cover rib that extends above the overhang of the cabinet during operation, and thus is larger than is necessary to contain clothes.

Whirlpool does not make or sell such a design. In machines with such a design, however, where a tub cover rib extends above the lower edge of the top panel (the cabinet of the machine), it would be reasonable to interpret the test procedure such that Fill Level 4 would not extend above the bottom edge of the cabinet opening.

<sup>12</sup> See Figure 3 above for a depiction of the space between Fill Level 3 and Fill Level 4.

Figure 5 shows a dry clothes load that occupies a volume that exceeds Fill Levels 3 and 4, and approaches the underside of the washer lid, and the same load after washing. These pictures demonstrate that while dry clothes may approach the underside of the lid cover during the initial period of washer operation, the load collapses to a lower level when fully wet.<sup>13</sup>

**FIGURE 5**  
**Dry clothes load at or above Fill Level 4 at start and finish of washer operation**



The May 13 Draft Interpretation states that the Fill Level 4 is not consistent with the J1 Test Procedure, because this level “includes volume enclosed by an additional lip, edge, or shroud that a clothing load could not occupy during washer operation.”<sup>14</sup> As described above, customers do fill top loading clothes washers up to, and sometime beyond, Fill Level 4. The space between Fill Level 3 and Fill Level 4 is space that dry clothes loads could occupy during washer operations. As Figure 5 reflects, the dry clothes in this space will, as they are wetted and washed during washer operation, settle lower into the wash basket and be cleaned.

**E. Measuring capacity at Fill Level 4 will provide greater certainty to manufacturers, resulting in greater consistency in capacity measurements and repeatable test results.**

There are also practical considerations that support selecting Fill Level 4. If DOE interprets the J1 Test Procedure as requiring an intermediate fill level position, such as Fill Level 3, which is lower than the uppermost edge of the clothes container, it may cause uncertainty and inconsistency as to capacity measurements.

<sup>13</sup> Section 1.4 of the J1 Test Procedure defines “clothes container” as “the compartment within the clothes washer that holds the clothes during operation of the machine.” When the lid is closed and the wash cycle selected, the machine begins operation. After a water fill and an initial period of water recirculation, dry clothes that rise up to Fill Level 4 or above collapse to a lower level when wet, and all of the clothes are washed. Thus, the washer holds all of the clothes at Fill Level 4 “during operation of the washer.”

<sup>14</sup> May 13 Draft Interpretation.

The May 13 Draft Interpretation and Figure 1 do not provide guidance as to the exact location of Fill Level 3. That level is just shown as a point on the tub cover that is not the rib. On Whirlpool washers, for instance, the tub cover is not horizontal, but rather slightly angled. Thus, due to variations in washer design, there may be many points that could qualify as that intermediate point. Every manufacturer would be required to compare their unique tub cover design to the illustrations of Figure 1 and determine which intermediate position on the tub cover best matches the depicted Fill Level 3. The point chosen by one manufacturer may be different than the point chosen by another manufacturer, and may be different than the point chosen by testing laboratories. This could result in variations in capacity measurements. Measuring capacity at Fill Level 4, the uppermost edge of the clothes container, as provided for by the J1 Test Procedure, will lead to greater clarity and repeatability in capacity and energy consumption measurements.

**F. Measuring the capacity of top loading washers at Fill Level 4 is the most comparable with the level used for measuring the clothes container capacity for front loading (horizontal axis) washers.**

The May 13 Draft Interpretation provides that the capacity of front loading (horizontal axis) washers must be measured by placing the washer on its back such that the front opening of the washer is horizontally level.<sup>15</sup> The capacity of front loading washers is measured to the highest point of contact between the door and the door gasket. If any portion of the door or gasket occupies space within the volume being measured when the door is closed, that space must be excluded from the measurement. Thus, for front loading washers, the capacity measurement uses a fill level up to the underside of the washer door and measures the maximum volume clothes could occupy when the door is closed.

Fill Level 4 on a top loading washer is the level that is most comparable to the level used for measuring the clothes container capacity in front loading washers. Measuring at Fill Level 4 would also measure the volume clothes could occupy when the lid is closed and the washer is being used. Whirlpool believes that top loading and front loading washers should be measured and tested in a comparable manner, and in a manner that achieves consistent and fair results. DOE's interpretation should be guided by that concept. The selection of any level lower than Fill Level 4 would lead to discrepancies in treatment of top loading and front loading washers, giving one washer design an advantage over the other.

For the reasons stated above, measuring capacity at Fill Level 4 for top loading washers is the proper interpretation of Section 3.1 of the J1 Test Procedure.

## **II. Front Loading (horizontal-axis) clothes washers**

The J1 Test Procedure was developed prior to widespread use of front loading washers in the United States. Thus, it is appropriate for DOE to provide guidance to the industry with respect to the testing of such washers. For front loading washers, Whirlpool believes the key test procedure areas requiring DOE guidance are:

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<sup>15</sup> See J1 Test Procedure, § 3.1.1.



- (i) the manner of securing the wash basket during testing to ensure that the wash basket does not sag or move out of normal operating range; and
- (ii) the manner in which the door volume is excluded from the overall volume.

Whirlpool proposes the following guidance to address these issues.

Since a front loading washer is placed in an orientation during capacity measurement that is different than its operating position, it is essential that the clothes container be secured in position prior to placing the washer on its back. This will prevent the clothes container from sagging downwardly and stretching the bellows structure which is typically provided to connect the washer tub with the exterior cabinet. For front loading washers, a capacity measurement position for the clothes container must be determined by initially placing clothes washer in its operating position, leveled as recommended by the manufacturer and determining the at-rest position of the clothes container relative to clothes container door, in its unloaded position, leaving any shipping fixtures provided with the washer in position. This position is the clothes container capacity measurement position.

With the clothes container secured in its capacity measurement position, the clothes washer must be placed in such a position that the uppermost edge of the clothes container opening is leveled horizontally, so that the clothes container will hold the maximum amount of water. Once the inside of the clothes container is properly lined with plastic sheeting, the clothes container must be filled with water to its uppermost edge with the door in the open position, where the uppermost edge is the highest point of contact between the door and door gasket/bellows. If necessary, additional restraints or supports should be used to ensure that the clothes container is retained in its capacity measurement position when filled with water. Upon filling the clothes container to its uppermost edge, the clothes washer door should be closed and all excess water that is displaced by any portion of the door which protrudes into the clothes container must be removed from the washer. The weight of this remaining water is then used to determine the volume of the clothes container.

#### **IV. Proposed Interpretation**

In order to implement the concepts discussed above, Whirlpool proposes certain changes to DOE's May 13 Draft Interpretation. The proposed changes are shown, in redline, in Attachment 1. These changes are intended to address:

- (i) the correct Fill Level selection for top loading washers;
- (ii) the manner of securing the front loading washer during capacity measurement; and
- (iii) the manner of excluding volume that clothes cannot occupy during washer operation from top loading and front loading washers.

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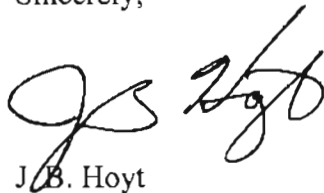
## **V. Conclusion**

As demonstrated above, measuring capacity at Fill Level 4 is the proper interpretation of Section 3.1 of the J1 Test Procedure because measuring capacity at Fill Level 4 is consistent with the terms of the J1 Test Procedure; dry clothes loads could occupy the volume corresponding to Fill Level 4; measuring capacity at Fill Level 4 provides greater certainty and repeatability in testing; and using Fill Level 4 is consistent with the fill level used for front loading washers. Additional guidance on measuring the capacity of front loading clothes washers, focusing on the manner of securing the wash basket during testing and the way in which the door volume is excluded from the overall volume, would be helpful.

As noted in the comments of the Association of Home Appliance Manufacturers ("AHAM"), DOE's interpretation of the J1 Test Procedure can have important product design implications and consequences. Clothes washer manufacturers base their business decisions on good faith interpretations of the applicable test procedures. Therefore, it is critical that DOE provide ample advance notice to manufacturers of any restrictive interpretation that it might adopt so that manufacturers have a fair opportunity to adjust to the new interpretation.

Thank you for your time and attention to this matter. If you have any questions, or if further discussion of this matter would be helpful, please contact me at the number listed above or Joel Van Winkle at (269) 923-8284.

Sincerely,

A handwritten signature in black ink, appearing to read "J.B. Hoyt", with a stylized flourish at the end.

J.B. Hoyt

Attachment

# EXHIBIT 12

## **Frequently Asked Questions**

### **For purposes of measuring the clothes container capacity under 10 CFR 430, Subpart B, Appendix J1 test procedure, what is considered the clothes container?**

The following answer is intended to clarify the Department's views on measuring the clothes container capacity under 10 CFR 430, Subpart B, Appendix J1 test procedure. This interpretative rule represents the Department's interpretation of its existing regulations and is exempt from the notice and comment requirements of the Administrative Procedure Act. *See 5 U.S.C. §553(b)(A)*. Nevertheless, the Department sought comment on a draft issued May 13, 2010, and considered all comments received in the development of the answer provided below.

The general requirements for measuring the clothes container capacity of a clothes washer are found in 10 CFR Part 430, Subpart B, Appendix J1. The following statement provides manufacturers with additional guidance on this issue.

Clothes container means the compartment within the clothes washer that holds the clothes during the operation of the machine.

#### **For top-loading (vertical-axis) clothes washers:**

For top-loading (vertical-axis) clothes washers, the upper-most edge of the clothes container shall be considered the highest point of the inner-most diameter of the tub cover. The maximum fill level that is consistent with the test procedure corresponds to "Fill Level 3" in Figure 1. Figure 2 shows the location of "Fill Level 3" for a variety of potential tub cover designs. (DOE notes that the diagrams in Figure 2 were originally submitted by commenters; on consideration of the diagrams, DOE made modifications to the interpretation of "Fill Level 3" in examples 1, 2, 4 and 6.)

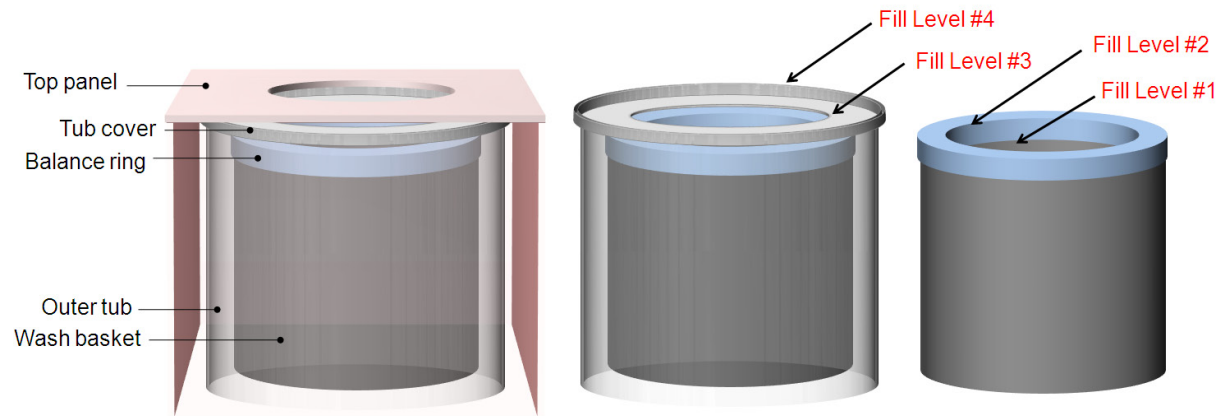
"Fill Level 3" represents the highest horizontal plane that a clothes load could occupy. "Fill Level 4" is not consistent with the capacity measurement method of the test procedure because, as defined in Section 3.1 of the test procedure, "Fill Level 4" includes volume above the surface of the tub cover that a dry clothes load could not occupy during washer operation.

For the volume measurement of the machine capacity for top loading (vertical-axis) machines, the filling of the water must stop at the highest horizontal plane that a clothes load could occupy (not to exceed "Fill Level 3"). The volume is measured with the door or lid open. If any portion of the door, when closed, would occupy the measured volume space, the volume that the door portion would occupy must be excluded from the measurement.

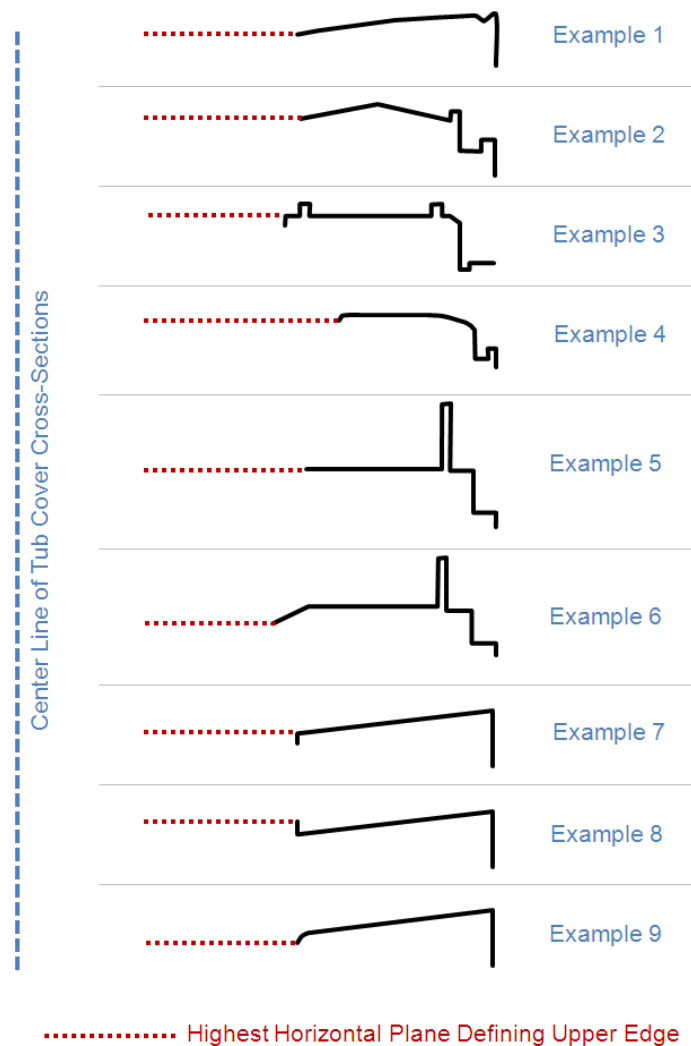
#### **For front-loading (horizontal-axis) clothes washers:**

During the capacity measurement for front-loading (horizontal-axis) clothes washers, the shipping bolts are to remain in place. This will prevent the clothes container from sagging downward when filled with water and stretching the bellows structure, as well as prevent possible damage to the clothes container structure.

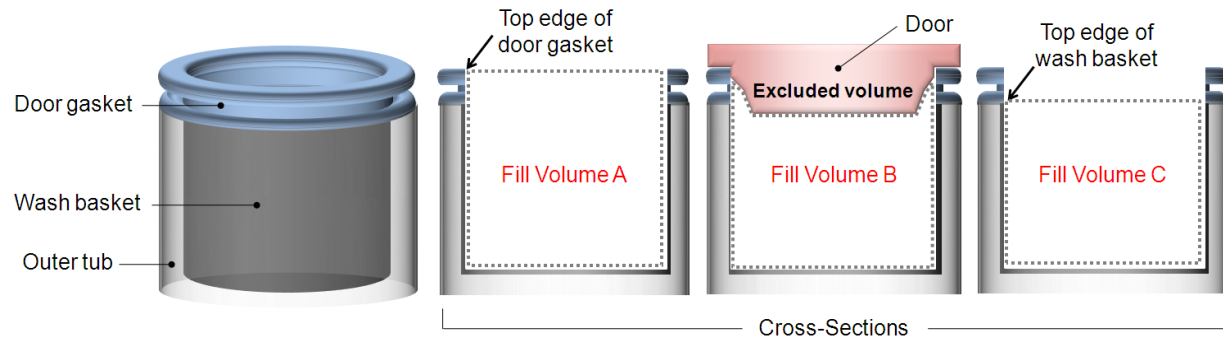
For the volume measurement of the machine capacity for front-loading (horizontal-axis) machines, the filling of the water must not exceed the highest point of contact between the door and the door gasket. If any portion of the door or gasket would occupy the measured volume space when the door is closed, the volume that the door or gasket portion would occupy must be excluded from the measurement. "Fill Volume B" in Figure 3 below represents the maximum fill volume for front-loading (horizontal-axis) clothes washers. Figure 4 shows "Fill Volume B" for a front-loading washer with a concave door, and Figure 5 shows "Fill Volume B" for a top-loading horizontal-axis clothes washer.



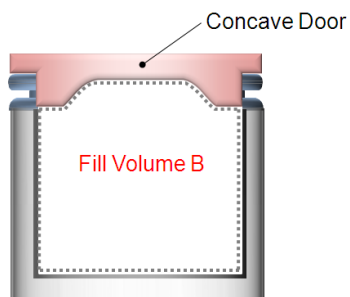
**Figure 1: Representation of Fill Levels for the Clothes Container Capacity Measurement for Vertical-Axis Clothes Washers**



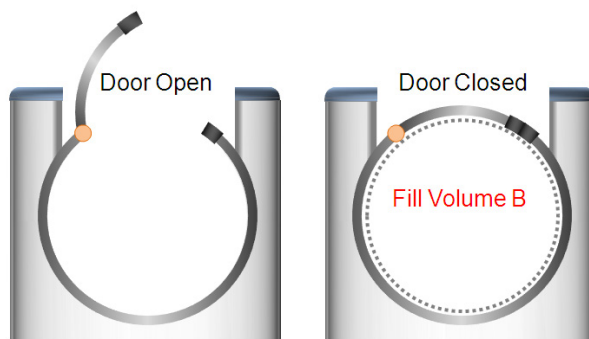
**Figure 2: Example Cross-Sections of Tub Covers Showing the Highest Horizontal Plane Defining the Uppermost Edge of the Clothes Container.**



**Figure 3: Representation of Fill Volumes for the Clothes Container Capacity Measurement for Front-Loading Horizontal-Axis Clothes Washers**



**Figure 4: Representation of Correct Fill Volume for Front-Loading Washer with Concave Door**



**Figure 5: Representation of Correct Fill Volume for Top-Loading Horizontal-Axis Clothes Washers**

# EXHIBIT 13



**Department of Energy**

Washington, DC 20585

March 23, 2011

Via email to Joel\_Van\_Winkle@whirlpool.com

Joel Van Winkle, Esq.  
Group Counsel  
Whirlpool Corporation  
2000 N. M-63  
Benton Harbor, MI 49022-2692

RE: DOE Case 2010-SCE-0303

Dear Mr. Van Winkle,

Thank you for the information you provided to the Department of Energy (DOE or the Department) related to Whirlpool manufactured residential clothes washers. As you know, the Department has an open investigation related to the capacity measurement of certain top loading clothes washers manufactured by Whirlpool.

We understand that, since DOE issued guidance on capacity measurement in July 2010, Whirlpool has used the guidance to test, rate, and certify the energy performance of all new washers. We also understand that Whirlpool has been retesting and recertifying its pre-existing clothes washer models to conform to the guidance and expects to have all washers re-rated by the end of April.

In light of these developments, the Department is interested in bringing this investigation to a close. Before we can do so, however, we require that all Whirlpool clothes washers have been rerated and recertified in accordance with the guidance. Therefore, please notify the Department once you have completed the rerating process and can confirm that all pre-existing and new clothes washers have been certified in accordance with the guidance.

Please feel free to contact Stephanie Weiner (202-586-9648) should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy G. Lynch", is written over a horizontal line.

Timothy G. Lynch  
Deputy General Counsel for  
Litigation and Enforcement



Printed with soy ink on recycled paper

WDZ0012428



# EXHIBIT 14



## Department of Energy

Washington, DC 20585

September 20, 2010

Mr. J.B. Hoyt  
Whirlpool Corporation  
Director, Government Relations  
2000 North M63, Mail Drop 3005  
Benton Harbor, MI 49022

Dear Mr. Hoyt:

The Maytag clothes washer model MVWC6ESWW1 was selected for testing as part of the ENERGY STAR® Verification Testing Pilot Program. Under this program, the U.S. Department of Energy (DOE) is testing samples of the most popular types of products in the State Energy Efficient Appliance Rebate Program (SEEARP) to 1) ensure that ENERGY STAR products meet the ENERGY STAR program requirements and 2) ensure that ENERGY STAR products meet the manufacturer's stated ratings.

This letter notifies you that test results from the ENERGY STAR Verification Testing Pilot Program show that the clothes washer model identified below does not satisfy the ENERGY STAR Program's energy-efficiency specifications. The test results are summarized below.

| Brand name and model number | Requirements                                |  | Serial #  | Test Results   |   |
|-----------------------------|---|--|-----------|--|---|
|                             | Federal Minimum Standard<br>(cu.ft./kWh/yr) | ENERGY STAR<br>(cu.ft./kWh/yr)<br>(gallons/cycle/cu.ft.) |           | Measured Energy Use<br>(cu.ft./kWh/yr)<br>(gallons/cycle/cu.ft.) | Difference from ENERGY STAR Requirement |
| Maytag Model MVWC6ESWW1     | 1.26 MEF                                    | 1.8 MEF<br>7.5 WF  | C00549330 | 1.78 MEF   | 1.1 %                                   |
|                             |   |  |           | 8.3 WF   | 10.7 %                                  |

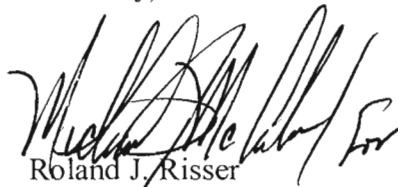


You may request additional testing no later than September 30, 2010. If you request additional testing, DOE will test at least three but not more than seven additional units selected from the retail market.

If you do not request additional testing by September 30, 2010, DOE will find that Maytag model MVWC6ESWW1 failed testing, and refer the matter to Environmental Protection Agency to begin the process of disqualifying the model and its derivatives from the ENERGY STAR Program.

If you have any additional questions, please contact Bryan Berringer at (202) 586-0371 or email [bryan.berringer@ee.doe.gov](mailto:bryan.berringer@ee.doe.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Roland J. Risser".

Roland J. Risser  
Program Manager  
Building Technologies Program  
Energy Efficiency and Renewable Energy

cc: Scott Blake Harris, General Counsel, U.S. Department of Energy  
Ann Bailey, Chief, EPA Energy Star Labeling Branch

# EXHIBIT 15



2000 NORTH M-63 • ADMINISTRATIVE CENTER • BENTON HARBOR, MICHIGAN 49022

JOEL VAN WINKLE  
Senior Counsel  
Phone: 269-923-8284  
Fax: 269-923-6221  
Email: joel\_van\_winkle@whirlpool.com

September 30, 2010

*Via email (BRYAN.BERRINGER@HO.DOE.GOV) and First Class Mail*

Mr. Bryan Berringer  
U.S. Department of Energy  
1000 Independence Ave., SW  
Washington, DC 20585

Re: Verification Testing of Maytag clothes washer model MVWC6ESWW1

Dear Mr. Berringer,

We are responding to the letter (Letter) dated September 20, 2010 from Roland Risser to J. B. Hoyt regarding the ENERGY STAR verification testing of Maytag brand clothes washer model MVWC6ESWW1.

We are hereby requesting that DOE perform additional testing of this model washer. For the most accurate results, we urge the Department to considering testing seven additional units, but in any case at least four additional units.

We note that we received the Letter via email on September 23. We understand that manufacturers have ten (10) days to request additional testing and yet in this case, the response due date of September 30 provided us with only seven (7) days to respond. We believe the full ten (10) days should be provided to ensure full opportunity for manufacturers to investigate the matter fully. Moreover, consistent application of the ten (10) day response period ensures fair treatment for all manufacturers.

We are in the process of completing our analysis of the test results provided with the Letter and may be supplementing this request with additional comments on the testing of the Maytag washer.

Sincerely,

A handwritten signature in dark ink, appearing to read "Joel Van Winkle".

Joel Van Winkle

# EXHIBIT 16



**Department of Energy**  
Washington, DC 20585

January 19, 2011

Mr. J.B. Hoyt  
Whirlpool Corporation  
Director, Government Relations  
2000 North M63, Mail Drop 3005  
Benton Harbor, MI 49022

Dear Mr. Hoyt:

As you know, the Maytag clothes washer model MVWC6ESWW1 was selected for testing as part of the U.S. Department of Energy's (DOE) ENERGY STAR<sup>®</sup> Verification Testing Pilot Program. This letter notifies you that results from additional testing, performed at your request by letter dated September 30, 2010, confirm that the clothes washer model MVWC6ESWW1 does not satisfy the ENERGY STAR Program's energy-efficiency specifications. The test results are summarized below showing that all four units fell below the minimum modified energy factor (MEF) and exceeded the maximum water factor (WF).

**MAYTAG MVWC6ESWW1**

| Serial number | ENERGY STAR MEF Min (ft <sup>3</sup> /kWh-cycle) | ENERGY STAR WF Max (gallons/cycle/ft <sup>3</sup> ) | Test Results                       |   |   |  |   |
|---------------|--|---|------------------------------------|---|---|--|---|
|               |  |   | Tested Capacity (ft <sup>3</sup> ) | Tested MEF (ft <sup>3</sup> /kWh-cycle) | Difference from ENERGY STAR Requirement | Tested WF (gallons/cycle/ft <sup>3</sup> ) | Difference from ENERGY STAR Requirement |
| C00549330     | 1.8  | 7.5   | 3.06                               | 1.73                                    | -3.8%                                   | 8.32                                       | 10.9%                                   |
| C03640554     | 1.8  | 7.5   | 3.07                               | 1.72                                    | -4.6%                                   | 8.03                                       | 7.1%                                    |
| C03640569     | 1.8  | 7.5   | 3.07                               | 1.70                                    | -5.5%                                   | 8.05                                       | 7.3%                                    |
| C03640574     | 1.8  | 7.5   | 3.07                               | 1.74                                    | -3.5%                                   | 7.99                                       | 6.6%                                    |

You may respond to this notification no later than February 9, 2011. In your response, you may present to DOE conclusive manufacturing or design evidence or quality assurance information on why this product did not meet the ENERGY STAR Program's energy-efficiency specifications. The product will remain designated as ENERGY STAR qualified during this twenty day period.

If you do not respond within twenty days or your response does not conclusively demonstrate to DOE's satisfaction that the model complies with ENERGY STAR program requirements, DOE will find that the Maytag clothes washer model MVWC6ESWW1 failed testing, and refer the matter to the U.S. Environmental Protection Agency (EPA) to begin the process of disqualifying the model and its



derivatives from the ENERGY STAR Program. Once the matter has been referred to EPA, DOE will notify the states and the public of DOE's determination that this model has failed testing and that DOE has referred it to EPA for enforcement.

If you have any additional questions, please contact Bryan Berringer at (202) 586-0371 or at [bryan.berringer@ee.doe.gov](mailto:bryan.berringer@ee.doe.gov).

Sincerely,



Roland J. Risser  
Program Manager,  
Building Technologies Program  
Energy Efficiency and Renewable Energy

cc: Scott Blake Harris, General Counsel, U.S. Department of Energy  
Ann Bailey, Chief, EPA Energy Star Labeling Branch  
Leslie Jones, Energy Star Compliance Lead



# EXHIBIT 17



## Department of Energy

Washington, DC 20585

March 16, 2011

Ms. Leslie Jones  
ENERGY STAR Program  
U.S. Environmental Protection Agency  
1200 Pennsylvania Avenue, NW  
Room 62023  
Washington, DC 20460

Dear Ms. Jones:

On September 20, 2010, the United States Department of Energy (DOE) notified Whirlpool Corporation (Whirlpool) that DOE testing of one unit of Maytag clothes washer model MVWC6ESWW1 as part of the ENERGY STAR Testing Pilot Program indicated that this model exceeded allowable ENERGY STAR energy-efficiency requirements. After consulting with Whirlpool, DOE proceeded with testing of additional units.

Stage II testing also indicated that model MVWC6ESWW1 does not meet the ENERGY STAR requirements. The Department notified Whirlpool of these results on January 19, 2011. In response, Whirlpool explained that the discrepancy between DOE's test results and Whirlpool's own testing stemmed from the measurement of the clothes container capacity. Whirlpool further explained that it measured capacity for this model based on its interpretation of the DOE test procedure. In July 2010, the Department issued guidance clarifying how to measure capacity in a way that differed from Whirlpool's interpretation.<sup>1</sup> Whirlpool also notified DOE that it discontinued production of this model in December 2010 and that Whirlpool no longer has any units of this model in inventory.

Accordingly, DOE is referring this matter to EPA, the brand manager for ENERGY STAR, for appropriate action. Please feel free to contact Laura Barhydt of my staff at 202-287-5772 should you require any further information.

Sincerely,

A handwritten signature in black ink, appearing to read "Timothy G. Lynch", is positioned above the typed name.

Timothy G. Lynch  
Deputy General Counsel  
for Litigation and Enforcement

cc: Mr. Joel Van Winkle  
[Joel.Van.Winkle@whirlpool.com](mailto:Joel.Van.Winkle@whirlpool.com)

<sup>1</sup> See [http://www1.eere.energy.gov/buildings/appliance\\_standards/residential/pdfs/cw\\_guidance\\_faq.pdf](http://www1.eere.energy.gov/buildings/appliance_standards/residential/pdfs/cw_guidance_faq.pdf).



# EXHIBIT 18

**Non-Lighting Products Disqualified from the ENERGY STAR® Program**

1/1/2010 to 5/2/2016

If you would like to be notified by e-mail when this document is updated, please e-mail your request to [enforcement@energystar.gov](mailto:enforcement@energystar.gov).

The following products have been disqualified because they failed to meet the ENERGY STAR Program Requirements during testing.

| Product Type  | Organization Name  | Brand Name                    | Product Model Number | Date Disqualified |
|---|--|-------------------------------|----------------------|-------------------|
| Audio/Video   | Nigel B. Design Inc.                                     | Nigel B. Design               | NB-50050             | 7/21/2011         |
| Audio/Video   | Nigel B. Design Inc.                                     | Nigel B. Design               | NB-50050PL           | 7/21/2011         |
| Audio/Video   | Nigel B. Design Inc.                                     | Nigel B. Design               | NB-50090             | 7/21/2011         |
| Audio/Video   | Nigel B. Design Inc.                                     | Nigel B. Design               | NB-50090PL           | 7/21/2011         |
| Audio/Video   | Nigel B. Design Inc.                                     | Nigel B. Design               | NB-70050             | 7/21/2011         |
| Audio/Video   | Nigel B. Design Inc.                                     | Nigel B. Design               | NB-70050PL           | 7/21/2011         |
| Audio/Video   | Nigel B. Design Inc.                                     | Nigel B. Design               | NB-70090             | 7/21/2011         |
| Audio/Video   | Nigel B. Design Inc.                                     | Nigel B. Design               | NB-70090PL           | 7/21/2011         |
| Boilers   | LAARS Heating Systems Company                            | LAARS Heating Systems Company | MT2H0200             | 10/4/2012         |
| Boilers   | LAARS Heating Systems Company                            | LAARS Heating Systems Company | MT2H0300             | 10/4/2012         |
| Ceiling Fans  | Hunter Fan Company                                       | Hunter                        | 28418                | 2/3/2014          |
| Ceiling Fans  | Hunter Fan Company                                       | Hunter                        | 28415                | 2/3/2014          |
| Ceiling Fans  | Hunter Fan Company                                       | Hunter                        | 28416                | 2/3/2014          |
| Ceiling Fans  | Hunter Fan Company                                       | Hunter                        | 28803                | 2/3/2014          |
| Ceiling Fans  | Hunter Fan Company                                       | Hunter                        | 21585                | 2/3/2014          |
| Central Air Conditioner Equipment and Air Source Heat Pumps | GD Midea Heating & Ventilating Equipment Co., Ltd.       | Midea                         | MRB-36CWN1-M14       | 6/19/2012         |
| Central Air Conditioner Equipment and Air Source Heat Pumps | GD Midea Heating & Ventilating Equipment Co., Ltd.       | Midea                         | MRB-36CWN1-X14       | 6/19/2012         |
| Central Air Conditioner Equipment and Air Source Heat Pumps | Rheem-Ruud Manufacturing                                 | Rheem                         | RPNL-031JAZ          | 11/16/2015        |
| Central Air Conditioner Equipment and Air Source Heat Pumps | Rheem-Ruud Manufacturing                                 | Rheem                         | UPNL-031JAZ          | 11/16/2015        |
| Central Air Conditioner Equipment and Air Source Heat Pumps | Thermo Products, LLC.                                    | Thermo                        | OPB24-80             | 8/19/2011         |
| Central Air Conditioner Equipment and Air Source Heat Pumps | Trane and American Standard Heating and Air Conditioning | Trane                         | 4TYK8518A1*          | 12/26/2012        |
| Central Air Conditioner Equipment and Air Source Heat Pumps | Trane and American Standard Heating and Air Conditioning | Trane                         | 4TXK8518A1*          | 4/2/2013          |
| Central Air Conditioner Equipment and Air Source Heat Pumps | York International Corp. UPG                             | Affinity 3S                   | CZB01811             | 1/24/2012         |
| Central Air Conditioner Equipment and Air Source Heat Pumps | York International Corp. UPG                             | Affinity                      | B1HX048A46*          | 4/20/2012         |
| Central Air Conditioner Equipment and Air Source Heat Pumps | York International Corp. UPG                             | Affinity                      | B1HX048A25*          | 4/20/2012         |
| Central Air Conditioner Equipment and Air Source Heat Pumps | York International Corp. UPG                             | Affinity                      | B1HX060A06*          | 4/20/2012         |
| Central Air Conditioner Equipment and Air Source Heat Pumps | York International Corp. UPG                             | Affinity                      | B1HX060A25*          | 4/20/2012         |
| Central Air Conditioner Equipment and Air Source Heat Pumps | York International Corp. UPG                             | Affinity                      | B1HX060A46*          | 4/20/2012         |
| Central Air Conditioner Equipment and Air Source Heat Pumps | York International Corp. UPG                             | Affinity                      | B1HX048A06*          | 4/20/2012         |
| Central Air Conditioner Equipment and Air Source Heat Pumps | York International Corp. UPG                             | Affinity                      | D1NQ042N06506B       | 12/26/2012        |
| Central Air Conditioner Equipment and Air Source Heat Pumps | York International Corp. UPG                             | Affinity                      | D1NQ042***25**       | 12/26/2012        |
| Central Air Conditioner Equipment and Air Source Heat Pumps | York International Corp. UPG                             | Affinity                      | D1NQ042***46**       | 12/26/2012        |
| Central Air Conditioner Equipment and Air Source Heat Pumps | York International Corp. UPG                             | Affinity                      | DAYQ-F042****        | 12/26/2012        |
| Central Air Conditioner Equipment and Air Source Heat Pumps | York International Corp. UPG                             | Affinity                      | DAYQ-T042****        | 12/26/2012        |
| Central Air Conditioner Equipment and Air Source Heat Pumps | York International Corp. UPG                             | Affinity                      | DAYQ-W042****        | 12/26/2012        |
| Clothes Washers   | Equator Appliances                                       | Equator                       | EZ 3720 CEE          | 10/22/2010        |
| Clothes Washers   | Fisher & Paykel  | Fisher & Paykel               | WA42T26GW*           | 9/30/2013         |
| Clothes Washers   | Whirlpool Corporation                                    | Maytag                        | MVWC6ESWW1           | 5/7/2012          |
| Commercial Griddles   | Vulcan (A division of ITW Food Equipment Group)          | Vulcan-Hart                   | 36RRG                | 2/6/2014          |
| Commercial Griddles   | Vulcan (A division of ITW Food Equipment Group)          | Vulcan-Hart                   | 48RRG                | 2/6/2014          |
| Commercial Griddles   | Vulcan (A division of ITW Food Equipment Group)          | Vulcan-Hart                   | 60RRG                | 2/6/2014          |
| Commercial Griddles   | Lang Manufacturing                                       | Lang                          | 124ZTC               | 1/20/2015         |
| Commercial Griddles   | Lang Manufacturing                                       | Lang                          | 136ZTC               | 1/20/2015         |
| Commercial Griddles   | Lang Manufacturing                                       | Lang                          | 148ZTC               | 1/20/2015         |
| Commercial Griddles   | Lang Manufacturing                                       | Lang                          | 160ZTC               | 1/20/2015         |
| Commercial Griddles   | Lang Manufacturing                                       | Lang                          | 172ZTC               | 1/20/2015         |
| Commercial Griddles   | Lang Manufacturing                                       | Lang                          | 124ZTDC              | 1/20/2015         |
| Commercial Griddles   | Lang Manufacturing                                       | Lang                          | 136ZTDC              | 1/20/2015         |
| Commercial Griddles   | Lang Manufacturing                                       | Lang                          | 148ZTDC              | 1/20/2015         |
| Commercial Griddles   | Lang Manufacturing                                       | Lang                          | 160ZTDC              | 1/20/2015         |
| Commercial Griddles   | Lang Manufacturing                                       | Lang                          | 172ZTDC              | 1/20/2015         |
| Commercial Refrigerators and Freezers                       | Admiral Craft Equipment Corp.                            | Adcraft                       | FZS-2D/W             | 3/22/2014         |
| Commercial Refrigerators and Freezers                       | Admiral Craft Equipment Corp.                            | Adcraft                       | RF-3D                | 3/21/2014         |
| Commercial Refrigerators and Freezers                       | Beverage-Air Corp.                                       | Beverage-Air                  | WTR 48A              | 11/12/2013        |
| Commercial Refrigerators and Freezers                       | Perlick  | Perlick                       | HP48RO-S             | 7/13/2011         |

| Product Type                          | Organization Name   | Brand Name                | Product Model Number   | Date Disqualified |
|---------------------------------------|---|---------------------------|--|-------------------|
| Commercial Refrigerators and Freezers | BuSung America Corp (DBA Everest Refrigeration)                   | Everest                   | EBB59  | 4/2/2014          |
| Commercial Refrigerators and Freezers | Yindu Kitchen Equipment Co., LTD                                  | ATOSA                     | MBF8501  | 5/21/2015         |
| Computers                             | AAEON Technology Inc.   | AAEON Technology Inc.     | TF-GCS-2500-IF-A10   | 7/18/2013         |
| Computers                             | AAEON Technology Inc.   | AAEON Technology Inc.     | TF-AEC-6872-A2-1010  | 7/19/2013         |
| Computers                             | Advantech Co., Ltd.   | Advantech                 | UNO-3072LA   | 5/22/2014         |
| Computers                             | Advantech Co., Ltd.   | Advantech                 | UNO-1172A  | 5/22/2014         |
| Computers                             | ASUSTeK Computer Inc.   | ASUS                      | 1015E  | 6/9/2014          |
| Computers                             | ASUSTeK Computer Inc.   | ASUS                      | X202E  | 6/12/2014         |
| Computers                             | ASUSTeK Computer Inc.   | ASUS                      | X301A  | 6/12/2014         |
| Computers                             | ASUSTeK Computer Inc.   | ASUS                      | BU400A   | 8/7/2014          |
| Computers                             | ASUSTeK Computer Inc.   | ASUS                      | TAICHI21   | 10/14/2014        |
| Computers                             | ASUSTeK Computer Inc.   | ASUS                      | TAICHI31   | 10/14/2014        |
| Computers                             | Posiflex Technologies, Inc.                                       | Posiflex                  | XT3215   | 1/21/2016         |
| Computers                             | TECO Electric & Machinery Co., Ltd.                               | TECO                      | TR3760   | 1/5/2016          |
| Dehumidifiers                         | Danby Products Inc.   | Danby                     | DDR70A1GP  | 8/21/2015         |
| Dehumidifiers                         | Danby Products Inc.   | Danby                     | DDR7009REE   | 8/21/2015         |
| Dehumidifiers                         | Friedrich Air Conditioning Company                                | Friedrich                 | D70D   | 1/10/2012         |
| Dehumidifiers                         | Haier America   | Haier                     | DE45EK   | 8/6/2013          |
| Dehumidifiers                         | Living Direct, Inc.   | Edgestar                  | DEP400EW   | 7/16/2015         |
| Dehumidifiers                         | WINIX Inc.  | Kenmore Elite             | 90701  | 5/30/2013         |
| Dishwashers                           | ASKO Appliances, Inc.   | ASKO                      | D5122XXLB  | 6/1/2010          |
| Dishwashers                           | ASKO Appliances, Inc.   | ASKO                      | D5122XXLADA  | 6/30/2010         |
| Dishwashers                           | ASKO Appliances, Inc.   | ASKO                      | D5122ADA   | 6/30/2010         |
| Dishwashers                           | ASKO Appliances, Inc.   | ASKO                      | D5122XXLS  | 6/30/2010         |
| Dishwashers                           | ASKO Appliances, Inc.   | ASKO                      | D5122XXLW  | 6/30/2010         |
| Displays                              | Sharp Electronics Corporation                                     | Sharp                     | LL-S201A   | 12/23/2013        |
| Furnaces                              | Allied Air Enterprises  | Allied Air Enterprises    | L85BR1V104/118F20***   | 8/6/2014          |
| Furnaces                              | Allied Air Enterprises  | Allied Air Enterprises    | L85BR1V104/118F20**  | 8/6/2014          |
| Furnaces                              | Granby Furnaces Inc.  | Granby-Conforto           | KLC-V1-"073-03"  | 1/10/2014         |
| Furnaces                              | York International Corp. UPG                                      | York                      | TP9C120D20MP12   | 2/12/2015         |
| Furnaces                              | York International Corp. UPG                                      | EVCON                     | TP9C120D20MP12   | 2/12/2015         |
| Furnaces                              | York International Corp. UPG                                      | Fraser-Johnson            | TP9C120D20MP12   | 2/12/2015         |
| Furnaces                              | York International Corp. UPG                                      | Coleman                   | TP9C120D20MP12   | 2/12/2015         |
| Furnaces                              | York International Corp. UPG                                      | Luxaire                   | TP9C120D20MP12   | 2/12/2015         |
| Furnaces                              | York International Corp. UPG                                      | York                      | YP9C120D20MP12   | 2/12/2015         |
| Furnaces                              | York International Corp. UPG                                      | Luxaire                   | LP9C120D20MP12   | 2/12/2015         |
| Furnaces                              | York International Corp. UPG                                      | Coleman                   | CP9C120D20MP12   | 2/12/2015         |
| Geothermal Heat Pumps                 | GeoSmart Energy Inc.  | ECO Y                     | YS048  | 3/3/2015          |
| Geothermal Heat Pumps                 | GeoSystems, LLC   | HydroHeat                 | MG069  | 12/20/2011        |
| Geothermal Heat Pumps                 | Modine Manufacturing Company                                      | Elemental                 | GHR036x102xxxxxxx,GHR036x302xxxxxxx,GHR036x103xxx<br>xxxxxx,GHR036x303xxxxxxx<br>(Closed Loop) | 3/11/2014         |
| Geothermal Heat Pumps                 | Modine Manufacturing Company                                      | Elemental                 | GHR036x202xxxxxExx,GHR036x402xxxxxExx (Closed Loop)  | 3/11/2014         |
| Geothermal Heat Pumps                 | Modine Manufacturing Company                                      | Elemental                 | TG036WBXX-XXXX (Closed Loop)   | 3/11/2014         |
| Geothermal Heat Pumps                 | WaterFurnace International, Inc.                                  | WATERFURNACE              | LSH048*1*4 (Closed loop)   | 1/19/2015         |
| Refrigerators and Freezers            | Avanti Products   | Avanti                    | BCA4560W-3   | 6/14/2012         |
| Refrigerators and Freezers            | Danby Products Inc.   | Danby                     | DUFM304*   | 5/20/2013         |
| Refrigerators and Freezers            | Electrolux Home Products  | Frigidaire                | FFTR1817L*   | 6/25/2010         |
| Refrigerators and Freezers            | Electrolux Home Products  | Frigidaire                | FFN09M5HW  | 12/16/2010        |
| Refrigerators and Freezers            | Electrolux Home Products  | Electrolux                | EW26SS70L*   | 8/26/2011         |
| Refrigerators and Freezers            | GE Appliances   | GE Profile                | PFSF5NFZ****   | 6/12/2013         |
| Refrigerators and Freezers            | Grainger Industrial Supply  | Dayton                    | 5NTX1  | 3/30/2012         |
| Refrigerators and Freezers            | INTIRION  | MicroFridge Garage Fridge | MFRA-4GF   | 9/15/2012         |
| Refrigerators and Freezers            | INTIRION  | MicroFridge Garage Fridge | MFRA-4GF-BUD   | 9/15/2012         |
| Refrigerators and Freezers            | INTIRION  | MicroFridge               | MFRA-4   | 9/15/2012         |
| Refrigerators and Freezers            | LG Electronics  | LG                        | LFX21975ST   | 1/20/2010         |
| Refrigerators and Freezers            | LG Electronics  | LG                        | LFX25975SB   | 1/20/2010         |
| Refrigerators and Freezers            | LG Electronics  | LG                        | LFX25975ST   | 1/20/2010         |
| Refrigerators and Freezers            | LG Electronics  | LG                        | LFX25975SW   | 1/20/2010         |
| Refrigerators and Freezers            | LG Electronics  | LG                        | LFX28977SB   | 1/20/2010         |
| Refrigerators and Freezers            | LG Electronics  | LG                        | LFX28977ST   | 1/20/2010         |
| Refrigerators and Freezers            | LG Electronics  | LG                        | LFX28977SW   | 1/20/2010         |
| Refrigerators and Freezers            | LG Electronics  | LG                        | LMX25985SB   | 1/20/2010         |
| Refrigerators and Freezers            | LG Electronics  | LG                        | LMX25985ST   | 1/20/2010         |
| Refrigerators and Freezers            | LG Electronics  | LG                        | LMX25985SW   | 1/20/2010         |
| Refrigerators and Freezers            | LG Electronics  | LG                        | FFTR1817L*   | 6/25/2010         |
| Refrigerators and Freezers            | Panasonic Appliances Refrigeration Systems Corporation of America | Summit                    | FF-1112BL  | 8/16/2013         |
| Refrigerators and Freezers            | Panasonic Appliances Refrigeration Systems Corporation of America | Summit                    | FF-1152SS  | 8/16/2013         |
| Refrigerators and Freezers            | Panasonic Appliances Refrigeration Systems Corporation of America | Summit                    | ARD1031FW11R/L   | 8/16/2013         |
| Refrigerators and Freezers            | Panasonic Appliances Refrigeration Systems Corporation of America | Summit                    | ARD1031FB11R/L   | 8/16/2013         |
| Refrigerators and Freezers            | Panasonic Appliances Refrigeration Systems Corporation of America | Summit                    | ARD1031FS11R/L   | 8/16/2013         |
| Refrigerators and Freezers            | Panasonic Appliances Refrigeration Systems Corporation of America | Summit                    | 10.3RMFR   | 8/16/2013         |
| Refrigerators and Freezers            | Panasonic Appliances Refrigeration Systems Corporation of America | Summit                    | 10.3LMFR   | 8/16/2013         |

| Product Type               | Organization Name   | Brand Name                            | Product Model Number  | Date Disqualified |
|----------------------------|---|---------------------------------------|-----------------------|-------------------|
| Refrigerators and Freezers | Panasonic Appliances Refrigeration Systems Corporation of America | Summit                                | 10.3RMFRW             | 8/16/2013         |
| Refrigerators and Freezers | Panasonic Appliances Refrigeration Systems Corporation of America | Summit                                | 10.3LMFRW             | 8/16/2013         |
| Refrigerators and Freezers | Perlick   | Perlick                               | HP72R00-S             | 7/14/2011         |
| Refrigerators and Freezers | Samsung   | Samsung                               | RF26VAB               | 3/22/2010         |
| Refrigerators and Freezers | Sanyo E&E Corporation   | Sanyo                                 | SR-4460*              | 8/31/2012         |
| Refrigerators and Freezers | Sears   | Kenmore                               | 79732                 | 1/20/2010         |
| Refrigerators and Freezers | Sears   | Kenmore                               | 79733                 | 1/20/2010         |
| Refrigerators and Freezers | Sears   | Kenmore                               | 79737                 | 1/20/2010         |
| Refrigerators and Freezers | Sears   | Kenmore                               | 79752                 | 1/20/2010         |
| Refrigerators and Freezers | Sears   | Kenmore                               | 79753                 | 1/20/2010         |
| Refrigerators and Freezers | Sears   | Kenmore                               | 79754                 | 1/20/2010         |
| Refrigerators and Freezers | Sears   | Kenmore                               | 79757                 | 1/20/2010         |
| Refrigerators and Freezers | Sears   | Kenmore                               | 79759                 | 1/20/2010         |
| Refrigerators and Freezers | Sears   | Kenmore                               | 79782                 | 1/20/2010         |
| Refrigerators and Freezers | Sears   | Kenmore                               | 79783                 | 1/20/2010         |
| Refrigerators and Freezers | Sears   | Kenmore                               | 79789                 | 1/20/2010         |
| Refrigerators and Freezers | Summit Appliances   | Summit                                | CF11ES                | 11/8/2011         |
| Refrigerators and Freezers | Sunpentown International Inc.                                     | SPT                                   | RF-330SS              | 5/23/2013         |
| Refrigerators and Freezers | Whirlpool Corporation   | KitchenAid                            | KSRG25FVMS*           | 9/27/2011         |
| Refrigerators and Freezers | Whirlpool Corporation   | KitchenAid                            | KSRS25RV*             | 9/27/2011         |
| Roofing Products           | AkzoNobel   | TRINAR CC                             | KB3Y42114 Black       | 8/30/2013         |
| Roofing Products           | American Construction Metals (ACM)                                | Fluropon SR                           | 435B411 Patina Green  | 8/17/2015         |
| Roofing Products           | Cooley Incorporated   | C3 (with and without fleece back)     | PVC - Grey            | 2/2/2016          |
| Roofing Products           | Fabral  | Architectural Profiles                | 435B411               | 8/17/2015         |
| Roofing Products           | Architectural Sheetmetal Products, Inc.                           | SpectraLume                           | Everglade Moss        | 8/26/2014         |
| Roofing Products           | Buckeye Metal Sales, LLC  | Buckeye                               | Burgundy              | 3/29/2012         |
| Roofing Products           | Consolidated Systems Inc.   | Versa-Steel 4029                      | Black                 | 8/30/2013         |
| Roofing Products           | Consolidated Systems, Inc.  | Versa-Steel 4029                      | Burgundy              | 3/27/2012         |
| Roofing Products           | Eagle Roofing Products  | Kona Red Range                        | 2698, 3698, 4698, 598 | 4/9/2013          |
| Roofing Products           | Higgins   | Performance Panel R Panel Series 2000 | Black                 | 8/30/2013         |
| Roofing Products           | Metal Building Supply   | Metal Panels                          | Regal Blue            | 3/29/2012         |
| Roofing Products           | Millennium Metals, Inc.   | Millennium Metals M-Seam              | Patina Green          | 8/12/2015         |
| Roofing Products           | Northstar Metals Mfg. Co.   | En-Dura Star, Loc Star, Snap Star     | 435B411               | 8/17/2015         |
| Roofing Products           | Santa Fe Tile Co.   | Santafe                               | Galeras               | 8/19/2013         |
| Roofing Products           | Santa Fe Tile Co.   | Santafe                               | Bay Blue              | 12/4/2014         |
| Roofing Products           | Southeastern Metals   | SemCoatSP                             | Burnished Slate       | 2/4/2015          |
| Roofing Products           | Steelscape, Inc.  | Spectrascap                           | Moss Green SPG0800X   | 2/18/2015         |
| Roofing Products           | TAMKO Building Products, Inc.                                     | MetalWorks                            | Sequoia Red           | 12/23/2013        |
| Roofing Products           | Valspar Corporation   | Fluropon                              | 435B411               | 8/17/2015         |
| Roofing Products           | Valspar Corporation   | WeatherX                              | EVERGREEN SPG0367X    | 8/26/2015         |
| Roofing Products           | WV Metal Wholesalers Inc.   | CERAM-A-STAR 1050 CC                  | Burgundy              | 8/30/2013         |
| Room Air Cleaners          | Airgle Corporation  | Airgle                                | AG950                 | 2/27/2016         |
| Room Air Cleaners          | Kaz Incorporated  | Honeywell                             | HPA-051C              | 6/14/2012         |
| Room Air Cleaners          | Kaz Incorporated  | Honeywell                             | HHT-057C              | 7/3/2012          |
| Room Air Conditioners      | Electrolux Home Products  | Frigidaire                            | FRA256ST2             | 7/13/2011         |
| Room Air Conditioners      | Haier America   | Haier                                 | EST12XCM              | 2/6/2015          |
| Room Air Conditioners      | Friedrich Air Conditioning Company                                | Friedrich                             | US10C30               | 10/3/2011         |
| Room Air Conditioners      | Friedrich Air Conditioning Company                                | Friedrich                             | CP15F10               | 10/3/2011         |
| Room Air Conditioners      | Friedrich Air Conditioning Company                                | Friedrich                             | US12C10               | 10/3/2011         |
| Room Air Conditioners      | Friedrich Air Conditioning Company                                | Friedrich                             | SM24M30               | 1/3/2012          |
| Room Air Conditioners      | Friedrich Air Conditioning Company                                | Friedrich                             | US10D30               | 2/27/2013         |
| Room Air Conditioners      | Midea USA Inc.  | Westpointe                            | MWF08CR               | 3/9/2011          |
| Televisions                | Naxa Electronics, Inc.  | NAXA                                  | NT-2207               | 11/23/2015        |
| Televisions                | Naxa Electronics, Inc.  | NAXA                                  | NT-2202               | 11/23/2015        |
| Televisions                | Sharp Electronics Corporation                                     | SHARP                                 | LC-32SV29U            | 5/8/2012          |
| Televisions                | Shenyang Tongfang Multimedia Co., Limited                         | ELEMENT                               | ELEFT466              | 6/16/2015         |
| Televisions                | TMAX Digital  | APEX                                  | LE4643T               | 12/3/2014         |
| Televisions                | Tongfang Global   | SEIKI                                 | SE55GY19              | 10/22/2015        |
| Televisions                | Tongfang Global   | SEIKI                                 | SE55GY19A             | 10/22/2015        |
| Televisions                | Tongfang Global   | SEIKI                                 | LE-55GCL-Y            | 10/22/2015        |
| Televisions                | Tongfang Global   | SEIKI                                 | LE-55GCL-A            | 10/22/2015        |
| Televisions                | Tongfang Global   | SEIKI                                 | LE-55GCL*****         | 10/22/2015        |
| Televisions                | Tongfang Global   | SEIKI                                 | LE-55GC*****          | 10/22/2015        |
| Televisions                | Tongfang Global   | SEIKI                                 | LE-55GCA              | 10/22/2015        |
| Televisions                | Tongfang Global   | SEIKI                                 | LE-55GBP-B            | 10/22/2015        |
| Televisions                | Tongfang Global   | SEIKI                                 | LE-55GBP-A            | 10/22/2015        |
| Televisions                | Tongfang Global   | SEIKI                                 | LE-55GBP*****         | 10/22/2015        |
| Televisions                | Tongfang Global   | SEIKI                                 | DWM55F1Y1             | 10/22/2015        |
| Televisions                | Tongfang Global   | SEIKI                                 | DWM55F1A1             | 10/22/2015        |
| Televisions                | Westinghouse Electronics  | Westinghouse                          | DW46F1Y1              | 1/28/2015         |
| Televisions                | Westinghouse Electronics  | Westinghouse                          | DW46F1Y2              | 1/28/2015         |
| Televisions                | Westinghouse Electronics  | Westinghouse                          | DWM55F1Y1             | 1/21/2016         |
| Televisions                | Westinghouse Electronics  | Westinghouse                          | DWM55F2Y1             | 1/21/2016         |
| Televisions                | Westinghouse Electronics  | Westinghouse                          | DWM55F1A1             | 1/21/2016         |
| Televisions                | Westinghouse Electronics  | Westinghouse                          | LE-55GCL-Q            | 1/21/2016         |
| Televisions                | Westinghouse Electronics  | Westinghouse                          | LE-55GCL-P            | 1/21/2016         |
| Televisions                | Westinghouse Electronics  | Westinghouse                          | LE-55GCL-A            | 1/21/2016         |
| Televisions                | Westinghouse Electronics  | Westinghouse                          | LE-55GCA              | 1/21/2016         |
| Televisions                | Westinghouse Electronics  | Westinghouse                          | LE-55GBP-A            | 1/21/2016         |
| Televisions                | Westinghouse Electronics  | Westinghouse                          | LE-55GBP-B            | 1/21/2016         |
| Televisions                | Westinghouse Electronics  | Westinghouse                          | LE-55GCL*****         | 1/21/2016         |



| Product Type     | Organization Name                                    | Brand Name       | Product Model Number | Date Disqualified |
|------------------|--|------------------|----------------------|-------------------|
| Televisions      | Westinghouse Electronics                             | Westinghouse     | LE-55GBP*****        | 1/21/2016         |
| Televisions      | Westinghouse Electronics                             | Westinghouse     | LE-55GC*****         | 1/21/2016         |
| Televisions      | Westinghouse Electronics                             | Westinghouse     | SE55GY19             | 1/21/2016         |
| Ventilating Fans | Acme Engineering & Manufacturing Corp.               | ACME             | VQ080ES              | 4/14/2014         |
| Ventilating Fans | Acme Engineering & Manufacturing Corp.               | ACME             | VQ090ES              | 4/14/2014         |
| Ventilating Fans | Acme Engineering & Manufacturing Corp.               | ACME             | VQ090ESM             | 4/14/2014         |
| Ventilating Fans | Acme Engineering & Manufacturing Corp.               | ACME             | VQ080ESBV            | 11/24/2015        |
| Ventilating Fans | Aero Pure LLC  | AERO PURE        | AP80RVL              | 8/26/2015         |
| Ventilating Fans | Air King, Ltd.                                       | Air King         | AK1101               | 3/15/2012         |
| Ventilating Fans | Air King, Ltd.                                       | Air King         | ESVAL30W             | 4/20/2012         |
| Ventilating Fans | Air King, Ltd.                                       | Air King         | ESVAL30B             | 4/20/2012         |
| Ventilating Fans | Air King, Ltd.                                       | Air King         | ESVAL30S             | 4/20/2012         |
| Ventilating Fans | Air King, Ltd.                                       | Air King         | ESVAL36S             | 4/20/2012         |
| Ventilating Fans | Air King, Ltd.                                       | Air King         | ESVAL36W             | 4/20/2012         |
| Ventilating Fans | Air King, Ltd.                                       | Air King         | ESVAL36B             | 4/20/2012         |
| Ventilating Fans | Air King, Ltd.                                       | Air King         | AK300LS              | 4/18/2013         |
| Ventilating Fans | Air King, Ltd.                                       | Air King         | AKF100D              | 5/3/2013          |
| Ventilating Fans | Air King, Ltd.                                       | Air King         | AKF100LS             | 5/3/2013          |
| Ventilating Fans | Air King, Ltd.                                       | Air King         | AKF50LS              | 5/3/2013          |
| Ventilating Fans | Air King, Ltd.                                       | Air King         | FRAK50               | 4/8/2015          |
| Ventilating Fans | Air King, Ltd.                                       | Air King         | AK50                 | 4/8/2015          |
| Ventilating Fans | Aero Pure LLC  | Aero Pure        | AP110G1              | 11/3/2015         |
| Ventilating Fans | Aero Pure LLC  | Aero Pure        | AP110G2              | 11/3/2015         |
| Ventilating Fans | Aero Pure LLC  | Aero Pure        | AP110G3              | 11/3/2015         |
| Ventilating Fans | Aero Pure LLC  | Aero Pure        | AP110G4              | 11/3/2015         |
| Ventilating Fans | Aero Pure LLC  | Aero Pure        | AP110G5              | 11/3/2015         |
| Ventilating Fans | Aero Pure LLC  | Aero Pure        | AP110G6              | 11/3/2015         |
| Ventilating Fans | Broan-NuTone LLC                                     | NuTone           | QTN130LE             | 1/24/2014         |
| Ventilating Fans | Broan-NuTone LLC                                     | NuTone           | 50NT                 | 4/7/2015          |
| Ventilating Fans | Broan-NuTone LLC                                     | NuTone           | 770                  | 4/7/2015          |
| Ventilating Fans | Continental Fan Manufacturing Inc.                   | Continental      | AXC200BES            | 4/10/2012         |
| Ventilating Fans | Continental Fan Manufacturing Inc.                   | CFM              | TBF120               | 4/21/2015         |
| Ventilating Fans | Guangdong Genuin Electric Co.                        | GNN              | BPT1524A1            | 3/2/2014          |
| Ventilating Fans | Hangzhou AUPU Bathroom & Kitchen Technology Co. Ltd. | AUPU             | AF912G1              | 10/7/2015         |
| Ventilating Fans | Hangzhou AUPU Bathroom & Kitchen Technology Co. Ltd. | AUPU             | AF912G2              | 10/7/2015         |
| Ventilating Fans | Hangzhou AUPU Bathroom & Kitchen Technology Co. Ltd. | AUPU             | AF912G3              | 10/7/2015         |
| Ventilating Fans | Hangzhou AUPU Bathroom & Kitchen Technology Co. Ltd. | AUPU             | AF912G4              | 10/7/2015         |
| Ventilating Fans | Hangzhou AUPU Bathroom & Kitchen Technology Co. Ltd. | AUPU             | AF912G5              | 10/7/2015         |
| Ventilating Fans | Hangzhou AUPU Bathroom & Kitchen Technology Co. Ltd. | AUPU             | AF912G6              | 10/7/2015         |
| Ventilating Fans | Maico Italia S.p.A                                   | Elicent          | AXC200BES            | 4/10/2012         |
| Ventilating Fans | Marley Engineered Products                           | Marley           | 8140ES               | 8/13/2013         |
| Ventilating Fans | Marley Engineered Products                           | Marley           | 8140FL               | 8/13/2013         |
| Ventilating Fans | National HVAC Products                               | Zonex            | GM-80                | 4/27/2011         |
| Ventilating Fans | Orbit Industries, Inc.                               | Orbit Industries | OEP110L              | 4/20/2012         |
| Ventilating Fans | Orbit Industries, Inc.                               | Orbit            | OEP110               | 11/22/2014        |
| Ventilating Fans | Ortech Industries, Inc.                              | Ortech           | OD8003               | 4/14/2014         |
| Ventilating Fans | Ortech Industries, Inc.                              | Ortech           | OD9003               | 4/14/2014         |
| Ventilating Fans | Ortech Industries, Inc.                              | Ortech           | ODS8003              | 4/14/2014         |
| Ventilating Fans | Ortech Industries, Inc.                              | Ortech           | ODS9003              | 4/14/2014         |
| Ventilating Fans | Ortech Industries, Inc.                              | Ortech           | OD8011               | 11/24/2015        |
| Ventilating Fans | Panasonic  | Panasonic        | FV40VQ3              | 5/29/2012         |
| Ventilating Fans | Panasonic  | Panasonic        | FV05VF2              | 8/23/2013         |
| Ventilating Fans | Prime Industrial Products                            | PRIME            | PME50                | 2/18/2014         |
| Ventilating Fans | Qingdao Xingbang                                     | Sterling         | SE80Q                | 4/14/2014         |
| Ventilating Fans | Qingdao Xingbang                                     | Sterling         | SE80QS               | 4/14/2014         |
| Ventilating Fans | Qingdao Xingbang                                     | Sterling         | SE90Q                | 4/14/2014         |
| Ventilating Fans | Qingdao Xingbang                                     | Sterling         | SE90QH               | 4/14/2014         |
| Ventilating Fans | Qingdao Xingbang                                     | Sterling         | SE90QS               | 4/14/2014         |
| Ventilating Fans | Qingdao Xingbang                                     | Sterling         | SE90QSC              | 4/14/2014         |
| Ventilating Fans | Qingdao Xingbang                                     | Sterling         | SE80RVL              | 8/20/2015         |
| Ventilating Fans | Qingdao Xingbang                                     | Sterling         | SE80RVLH             | 8/20/2015         |
| Ventilating Fans | Qingdao Xingbang                                     | Sterling         | SN80                 | 11/24/2015        |
| Ventilating Fans | Reversomatic Manufacturing Ltd.                      | Softaire         | SA50E                | 4/19/2013         |
| Ventilating Fans | Reversomatic Manufacturing Ltd.                      | Reversomatic     | TL340                | 8/12/2014         |
| Ventilating Fans | Reversomatic Manufacturing Ltd.                      | Reversomatic     | 4000250ES2           | 4/21/2015         |
| Ventilating Fans | S&P USA Ventilation Systems, LLC                     | S&P              | PC80                 | 4/14/2014         |
| Ventilating Fans | Ventamatic Ltd.                                      | NuVent           | NXSH80               | 3/3/2014          |
| Ventilating Fans | Windridge Fans Corporation                           | Windridge        | EP110L               | 4/20/2012         |
| Ventilating Fans | Windridge Fans Corporation                           | Windridge        | EP110                | 11/22/2014        |
| Water Coolers    | Electrotemp Technologies, Inc.                       | Black and Decker | 8LIECK-W             | 1/14/2014         |
| Water Coolers    | Electrotemp Technologies, Inc.                       | Electrotemp      | 7LIECH-SC-SSF        | 3/6/2015          |
| Water Coolers    | Electrotemp Technologies, Inc.                       | Electrotemp      | 7LIECH-*             | 3/6/2015          |
| Water Coolers    | Electrotemp Technologies, Inc.                       | Electrotemp      | 7LIECH-SSF-WL        | 3/6/2015          |
| Water Coolers    | Electrotemp Technologies, Inc.                       | Electrotemp      | 7LIECH-SC*           | 3/6/2015          |
| Water Coolers    | Electrotemp Technologies, Inc.                       | Electrotemp      | 7LIECH-BP-WL         | 3/6/2015          |

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| Product Type                  | Organization Name         | Brand Name                | Product Model Number | Date Disqualified |
|-------------------------------|---------------------------|---------------------------|----------------------|-------------------|
| Windows, Doors, and Skylights | Paradigm Window Solutions | Paradigm Window Solutions | PWS-A-25-00030-00002 | 9/10/2015         |
| Windows, Doors, and Skylights | Paradigm Window Solutions | Paradigm Window Solutions | PWS-A-25-00030-00003 | 9/10/2015         |
| Windows, Doors, and Skylights | Paradigm Window Solutions | Paradigm Window Solutions | PWS-A-25-00031-00001 | 9/10/2015         |
| Windows, Doors, and Skylights | Paradigm Window Solutions | Paradigm Window Solutions | PWS-A-25-00029-00001 | 9/10/2015         |
| Windows, Doors, and Skylights | Paradigm Window Solutions | Paradigm Window Solutions | PWS-A-25-00029-00002 | 9/10/2015         |
| Windows, Doors, and Skylights | Paradigm Window Solutions | Paradigm Window Solutions | PWS-A-25-00029-00003 | 9/10/2015         |